CAPITAL PROJECT
SERVICES DEPARTMENT

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P.O. Box 3420 Fax (530) 895-4899
Chico, CA 95927 http://www.ci.chico.ca.us



**CITY OF CHICO**
**NOTICE OF INTENT TO ADOPT A**
**MITIGATED NEGATIVE DECLARATION**

POSTED 2/14/08 THROUGH 3/17/08

February 11, 2008

**NOTICE IS HEREBY GIVEN** that the City of Chico Planning Services Director intends to adopt a mitigated negative declaration for the project described below. The project will be approved administratively unless referred to the City Council for action:

**Annie's Glen Bicycle and Pedestrian Facilities (City of Chico Capital Project 50064)**

The City of Chico proposes to develop two adjoining perpendicular sections, or Alignments A and B, of bikeway facilities in Lower Bidwell Park serving Annie's Glen and the Camellia Way Picnic Area to improve the connectivity of the bicycle and pedestrian traffic through the park as well as provide a safe route for students attending schools located on the north side of Big Chico Creek and Vallombrosa Avenue.

Alignment A consists of the reconstruction of an existing approximately 2,000 linear foot portion of path which spans from East 1st Street eastward to South Park Drive, with a new underpass structure and associated improvements installed at Pine Street. The proposed grade separation would eliminate bicycle and pedestrian/vehicular conflicts that are common under existing conditions.

Alignment B consists of the construction of a class I bikeway in the Camellia Way Picnic Area, near the intersection of Vallombrosa Avenue and Memorial Way. The bikeway would trend perpendicular to Big Chico Creek and parallel to the alignment of Memorial Way. A clear-span pedestrian / bicycle bridge, with all improvements placed outside the ordinary high water mark, would connect the Camellia Way Picnic Area to Annie's Glen on the southern bank of Big Chico Creek, where the two alignments would connect. Construction of the two alignments and their associated improvements would occur over the course of up to two construction seasons. Questions regarding this project may be directed to Senior Civil Engineer Bob Greenlaw who can be reached at (530) 879-6930 or via email at bgreenla@ci.chico.ca.us.

An initial study for environmental review has been prepared for the project. Based upon the information within the initial study, the Capital Project Services Department is recommending that a mitigated negative declaration be adopted for the project pursuant to the California Environmental Quality Act (CEQA). A mitigated negative declaration is a determination that a project will not have a significant impact on the environment, after the incorporation of specific mitigation measures. A 30-day public review period to begin on **Friday, February 15, 2008** and end at **5:00 p.m. on Monday, March 17, 2008**, is being conducted on the proposed mitigated negative declaration. During this time period, the initial study, mitigated negative declaration and all documents referenced therein shall be available for public review at the City of Chico Capital Project Services Department, 411 Main Street, Second Floor, Chico, California, 95927, Monday through Friday from 8:00 a.m. to 5:00 p.m. Further information, including maps and files, may be reviewed at the City of Chico Capital Project Services Department. Comments relating to environmental concerns and the proposed mitigated negative declaration must be filed in writing to the City of Chico, Capital Project Services Department, Attention: Bob Greenlaw, P.O. Box 3420, Chico, CA 95927 during the designated time period.

E/R PUBLISH: **Friday, February 15, 2008**

c: City Clerk/APC4/E-R/County Clerk/BEC/Merz/Lieberum/File
Acct. #: 305-000-8800/50064-305-4120

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## LIST OF ACRONYMS

ADA ..... Americans with Disabilities Act
BCAQMD ..... Butte County Air Quality Management District
BMP(s) ..... Best Management Practice(s)
BPTM ..... Best Practices Technical Manual
Caltrans ..... California Department of Transportation
CARD ..... Chico Area Parks and Recreation District
CASWP ..... Construction Activity Storm Water Permit
CBC ..... California Building Code
CDFG ..... California Department of Fish and Game
CEQA ..... California Environmental Quality Act
CESA ..... California Endangered Species Act
CNPS ..... California Native Plant Society
CUSD ..... Chico Unified School District
CVRWQCB ..... Central Valley Regional Water Quality Control Board
CWA ..... Clean Water Act
dB ..... Decibel(s)
EPA ..... Environmental Protection Agency
ESA ..... Endangered Species Act
FEMA ..... Federal Emergency Management Agency
FIRM ..... Flood Insurance Rate Map
GP ..... General Plan
LOS ..... Level(s) of Service
MEA ..... Master Environmental Assessment
mgd ..... Million Gallons per Day
NPDES ..... National Pollution Discharge Elimination System
$PM_{10}$ ..... Particulate Matter less than 10 Microns
$PM_{2.5}$ ..... Particulate Matter less than 2.5 Microns
SR[#] ..... State Route[99, et al]
SWAP ..... Storm Water Management Program
SWPPP ..... Storm Water Pollution Prevention Plan
UBC ..... Uniform Building Code
USACE ..... United States Army Corps of Engineers
USFWS ..... United States Fish and Wildlife Service
VELB ..... Valley Elderberry Longhorn Beetle

••••••••

# INITIAL STUDY

## City of Chico
## Environmental Coordination and Review

**ROUTE TO:**

[ **X** ] City of Chico – Building and Development Services
[ **X** ] City of Chico – Capital Project services
[ **X** ] City of Chico – Park Division
[ **X** ] State Clearinghouse
[ **X** ] All Trustee and Responsible Agencies (U.S. Fish and Wildlife; Central Valley Regional Water Quality Control Board, The Reclamation Board of the State of California, California Department of Fish and Game)

## I. PROJECT DESCRIPTION

**A.** **Project Name:** Annie's Glen Bikeway (Capital Project 50064-000-4140)

**B.** **Project Location:** The project site is located primarily* in Section 26, T22 North, R01 East, M, at the western terminus of Lower Bidwell Park, in the City of Chico (**Figure 1**). The project is proposed in the Camellia Way and Annie's Glen Picnic Areas, north and south of Big Chico Creek respectively. Bikeway facilities would also be constructed east of the Pine Street Alignment, south of Big Chico Creek and north of Woodland Avenue. The project site is generally bound by the alignment of Vallombrosa Avenue to the north and west, East 1st Street to the southwest, residential development to the south, and approximately 170 linear feet northeast of the South Park Drive entrance at Woodland Avenue to the east.

The bikeway facilities proposed in the Camellia Way and Annie's Glen Picnic Areas would be connected by a clear-pedestrian bridge that would cross Big Chico Creek. The bikeway facilities proposed in the Annie's Glen Picnic Area and east of the Pine Street alignment would be connected by an underpass constructed under the Pine Street roadway.

**C.** **Type of Application(s):**
City of Chico Capital Project (Nexus) and Safe Routes to School

**D.** **Assessor's Parcel Number:** 005-310-001

**E.** **General Plan Designation:** *Project Site:* P (Park)
*Adjacent Parcels:* North: CC (Community Commercial), Northwest: CC (Community Commercial), Southwest: D (Downtown), South: LDR (Low Density Residential), East: P (Park)

**F.** **Zoning:** *Project Site:* OS1 (Primary Open Space)

* The westernmost portion of the project site is located within the Arroyo Chico and Rancho de Farwell Land Grants, which pre-date the Public Lands Survey.

*Adjacent Districts:* North: CC (Community Commercial), Northwest: CC (Community Commercial), Southwest: D (Downtown Residential), CD (Downtown Commercial), South: OR (Office Residential), R1 (Low Density Residential), East: OS1 (Primary Open Space)

**G.** **Environmental Setting:** The proposed project would take place in Lower Bidwell Park, in an area of existing, low-intensity recreational uses, including picnic facilities and bikeways. Existing roadway alignments border the project site on the west, north and east. Existing development borders the project site to the south. The parcels immediately south of Annie's Glen have East 3rd Street frontage and separate the project site from the alignment of that roadway.

The project site is located in the riparian setting along the northern and southern banks of Big Chico Creek at the western terminus of Lower Bidwell Park. Valley oak, cottonwood, sycamore, walnut and maple trees are common throughout the project site. Wild grape, periwinkle and blackberry are major contributors to the site's understory. The Camellia Way Picnic Area, as viewed from Vallombrosa Avenue, has a more "manicured" appearance than Annie's Glen and the area east of Pine Street, which are south of the creek's channel. The adjacent land uses tend to accentuate the divergent physical characteristics of the northern and southern areas of the project site. Two signalized intersections, multiple commercial developments, Chico Junior High School and the alignments of Mangrove and Vallombrosa Avenues are visible from the Camellia Way Picnic Area. In contrast, the proposed bikeway south of Big Chico Creek would run perpendicular to the alignment of Pine Street and parallel to the creek's channel. The riparian vegetation along Big Chico Creek shields much of the view towards the north. The developments south of Annie's Glen are primarily residential in nature, with East 3rd Street frontage and fencing along their northern boundaries. The project area east of the Pine Street alignment is shielded to the north by the riparian vegetation associated with Big Chico Creek. The alignment of Woodland Avenue, approximately 200-feet south of Big Chico Creek, is similarly shielded by the site's woodland vegetation.

Topographic variations in the project area tend to be gentle in nature. The elevation generally increases as one moves eastward within the project site, with a total west-to-east increase of approximately four (4) feet. The portion of the proposed path that would connect Annie's Glen to the Camellia Way Picnic Area would run perpendicular to the channel of Big Chico Creek. As expected, the elevation tends to decrease towards the channel of Big Chico Creek from the northern and southern boundaries of the project site.

**H.** **Project Description:** The project proposes two perpendicular sections, or phases, of bikeway facilities in Lower Bidwell Park. The proposed sections, and their associated improvements, would occur in two phases:

Phase A:

- Construction of a class I bikeway that would trend parallel to the channel of Big Chico Creek and perpendicular to the proposed pedestrian bridge. This would consist primarily of repairing and improving the site's existing bikeway to ensure compliance with applicable design standards. The proposed bikeway would reach its western extent near the intersection of

Orient and East 1st Streets and its eastern extent approximately 300 feet east of the Pine Street alignment. The proposed bikeway would stretch approximately 1,000 feet from west to east and would connect Annie's Glen and the Camellia Way Picnic Area via the proposed pedestrian bridge to be constructed as described in Phase B below. The tie-in with the pedestrian bridge would occur approximately 260 feet northeast of the Orient Street/East 2nd Street Intersection and 460 feet southwest of the Pine Street/bikeway Interchange.

- Construction of an interchange, at the existing alignment of Pine Street, which would connect the Annie's Glen bikeway to the bikeway east of Pine Street and north of Woodland Avenue. The bikeways, which are currently separated by the alignment of Pine Street, would be connected through construction of a proposed underpass. The proposed grade separation would eliminate pedestrian/vehicular conflicts that are common under existing conditions.
- Construction of new and/or repair existing bikeway east of Pine Street to create a continuous class I facility on the project site with an eastern terminus near the Woodland Avenue/Poplar Street Intersection. The bikeway facilities within Phase A would stretch nearly 2,000 linear feet.

Phase B:

- Construction of a class I bikeway in the Camellia Way Picnic Area, near the intersection of Vallombrosa Avenue and Memorial Way. The bikeway would trend perpendicular to Big Chico Creek and parallel to the alignment of Memorial Way. A clear-span pedestrian bridge, with all improvements placed outside the ordinary high water mark, would connect the Camellia Way Picnic Area to Annie's Glen on the southern bank of Big Chico Creek, where the two sections would connect. Phase B would consist of approximately 200 linear feet of facilities. The proposed clear-span bridge, at an estimated 100 linear feet, would represent 50% of the alignment's linear extent. The proposed bridge would be similar in appearance to other pedestrian bridges in Bidwell Park, such as the existing crossing at Forest Avenue (**Figure 2**).
- Construction of a new storm drain outfall in the vicinity of the Pine Street/Big Chico Creek Interchange to ensure adequate site drainage from the undercrossing and its related approaches.

The proponent intends to construct all facilities within one construction season. However, the permitting processes of the agencies having jurisdiction could delay construction of the improvements proposed near Big Chico Creek. This could result in the two phases being installed over two construction seasons. Whether the proposed improvements are to occur over one season or more than one season, this study addresses the construction of both phases as one project per CEQA Guidelines (§15378).

Proposed Interchange

The Pine Street roadway is elevated approximately six feet higher than the existing grade where the underpass would be constructed. Access between the existing paths and Pine Street is currently by way of steep, earthen slopes. Movement between the existing bikeways adjacent to Pine Street is further hindered by the absence of crossing facilities and the heavy vehicular traffic on the roadway.

The project consists of the construction of paths, in the vicinity of the current earthen slopes, that would connect the existing pedestrian facilities along Pine Street with the proposed class I bikeways to a depth of approximately ten feet below. All proposed facilities would be constructed pursuant to applicable design standards, including those of the Chico Municipal Code, the Caltrans Highway Design Manual and the Americans with Disabilities Act (ADA).

The Mangrove Avenue/Vallombrosa Avenue Intersection is approximately 250 feet north of the proposed bikeway/Pine Street Interchange. This intersection experiences heavy AM and PM peak hour traffic partly associated with daily commutes to and from area schools.

The proposed facilities would be partially funded by the state and federal Safe Routes to School programs. The federal Safe Routes to School Program was enacted by §1404 of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users*, while the state program was enacted by §2330 of the California Streets and Highway Code. The programs are intended to encourage and enable non-vehicular commutes, such as walking and cycling, to school. The nearest school, Chico Junior High School, is approximately 250 feet northwest of the project site. Other nearby schools include Chico Senior High and Hooker Oak Elementary, approximately 0.5-miles northwest and 0.75-miles northeast of the project site respectively.

Additional funding would be provided by Fund 305, as identified in the City's Nexus Study Final Report (2006). The Bikeway Improvement Fee, the primary source of revenue for Fund 305, is used to expand and improve the City's bikeway system. This is achieved primarily through the construction of additional class I bicycle paths in response to the growing demand generated by new development. The proposed project is specifically identified in the Nexus Study as a bikeway improvement project that is to be funded by the Bikeway Improvement Fee. The Nexus Study was approved by the City Council in 2006 and amended by the Council in 2007.

## I. City Standards and Conditions of Approval

The applicant would be required to ensure the project adheres to relevant conditions of approval required by applicable regulations, standard mitigation and monitoring programs identified in the City's Best Practices Technical Manual and the project-specific mitigation measures, as set forth in this document.

Plans, specifications and/or construction contracts for the proposed project must be consistent with relevant City regulations and standard conditions of approval. The following standards, regulations and conditions of approval are likely to apply to the proposed bike path:

### 1. Chico Municipal Code

- Title 16: Buildings and Construction. This section includes Building, Grading, Floodplain and Tree Preservation Regulations.
- Title 16R: Building Standards. Adopts the standards of the UBC and State Building Code. Projects must implement appropriate BMPs that shall "safeguard ... life, health, property, safety ... and environment."
- Title 19: Land Use and Development.

**2. Best Practices Technical Manual**

- Implementation Guide for Project Review:
  - Requires compliance with Chico Municipal Code Chapter 1.4 (Environmental Review Guidelines)
- Standard Mitigation and Monitoring Program for Air Quality:
  - Requires incorporation of pertinent BMPs during construction activities.
- Standard Mitigation and Monitoring Program for Raptor Habitat:
  - Requires compliance with the federal Migratory Bird Treaty Act and state Fish and Game code protecting raptors.
- Standard Mitigation and Monitoring Program for Creekside Greenways:
  - Requires relevant management practices for projects proposed near creekside greenways identified in General Plan.
- Standard Mitigation and Monitoring Program for Oaks and Other Trees:
  - Regulations for potential impacts to City-owned trees, specifications for tree work and tree protection specifications.
- Standard Mitigation and Monitoring Program for Wetlands:
  - Standard includes adherence to all federal, state and regional requirements prior to project approval.
- Standard Mitigation and Monitoring Program for Cultural Resources:
  - Sets forth requirements for the protection of general, archaeological and historic cultural resources within the City.
- Standard Mitigation and Monitoring Program for Stormwater Management:
  - Standard Conditions: No net increase of volume/rate of runoff, long-term funding for all stormwater facilities and appropriate BMPs to intercept "first flush" contaminants from initial ½-inch of each rainfall event.
  - Municipal Code 16R.22: Grading plans and contracts shall include appropriate measures, including sediment control, BMPs, setbacks, runoff control, revegetation, slope stabilization, protection of watercourses and/or disposal of cleared material and fill.

**3. Storm Water Management Program**

In compliance with state and federal water quality regulations, the City has developed a Storm Water Management Program (SWAP). The SWAP was developed in compliance with the Phase II NPDES permitting regulations established by the EPA in 1999. The SWAP consists of six elements: Public Education/Outreach, Public Participation/Involvement, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post-Construction Stormwater Management and Pollution Prevention/Good Housekeeping (Municipal Operations). The proposed project shall adhere to relevant and practicable standards and regulations identified in the SWAP, including implementation of BMPs and development of a SWPPP.

**4. BMPs**

Implemented where practicable and relevant include (but are not limited to):

- Staging Areas: These areas will be located away from sensitive biological resources, habitat, water features, et cetera.

- Watering Construction Sites: To control fugitive dust emissions (which, otherwise, could impact air quality and biological resources).
- Fenced/Cordoned-Off Areas of Biological Sensitivity: To ensure avoidance of intrusion in these areas.
- Employee Education: To illuminate the importance of biological resources within the project area, appropriate avoidance measures and potential penalties for generating impacts to special-status biological resources.
- Erosion, Siltation and/or Stormwater Measures: Shall ensure construction activity and long-term water quality protection.

**J. Public Agency Approvals:**

**California Department of Fish and Game**

- Trustee Agency: DFG is consulted by the CEQA lead agency when a project involves resources under the Department's jurisdiction.

- Responsible Agency: The project would require acquisition of a §1600 Streambed Alteration Agreement or a waiver thereof. Additionally, the project would require DFG consultation due to the presence of listed species per CESA.

**United States Army Corps of Engineers**

- Clean Water Act: The project would require acquisition of a §404 Permit, or a waiver thereof.

**Central Valley Regional Water Quality Control Board**

- Clean Water Act: The project would require §401 water quality certification as a condition of §404 permit acquisition.

- Clean Water Act: The project would require a Construction Activity Storm Water Permit, with an approved storm water pollution prevention plan, per §402.

- Porter-Cologne Water Quality Control Act: The RWQCB has further stated that the §401 certification program has become ...the State's de facto wetland protection regulation program... (RWQCB, 2005)

**United States Fish and Wildlife Service**

- Endangered Species Act: The project would require §7 consultation and an incidental take permit, or informal consultation through technical assistance as the valley elderberry longhorn beetle has the potential to occur within the project site.

**NOAA National Marine Fisheries Service**

- Endangered Species Act: The project would require §7 consultation and consistency with §9 of the ESA, which prohibits take, including detrimental habitat modifications, as Big Chico Creek is within designated critical habitat for two federally listed anadromous fish species.

**K. Applicant:** City of Chico, Capital Project Services, 411 Main St. Chico, CA

**L.** **Initiated By:** City of Chico, Capital Project Services, 411 Main St. Chico, CA
**Contact:**
Bob Greenlaw – Senior Civil Engineer – Capital Project Services
**Prepared By:**
Gallaway Consulting, Inc. – (Consultant)
Kevin Sevier – Senior Planner
Jim McKay – Associate Planner

**Figure 1:** Project Location

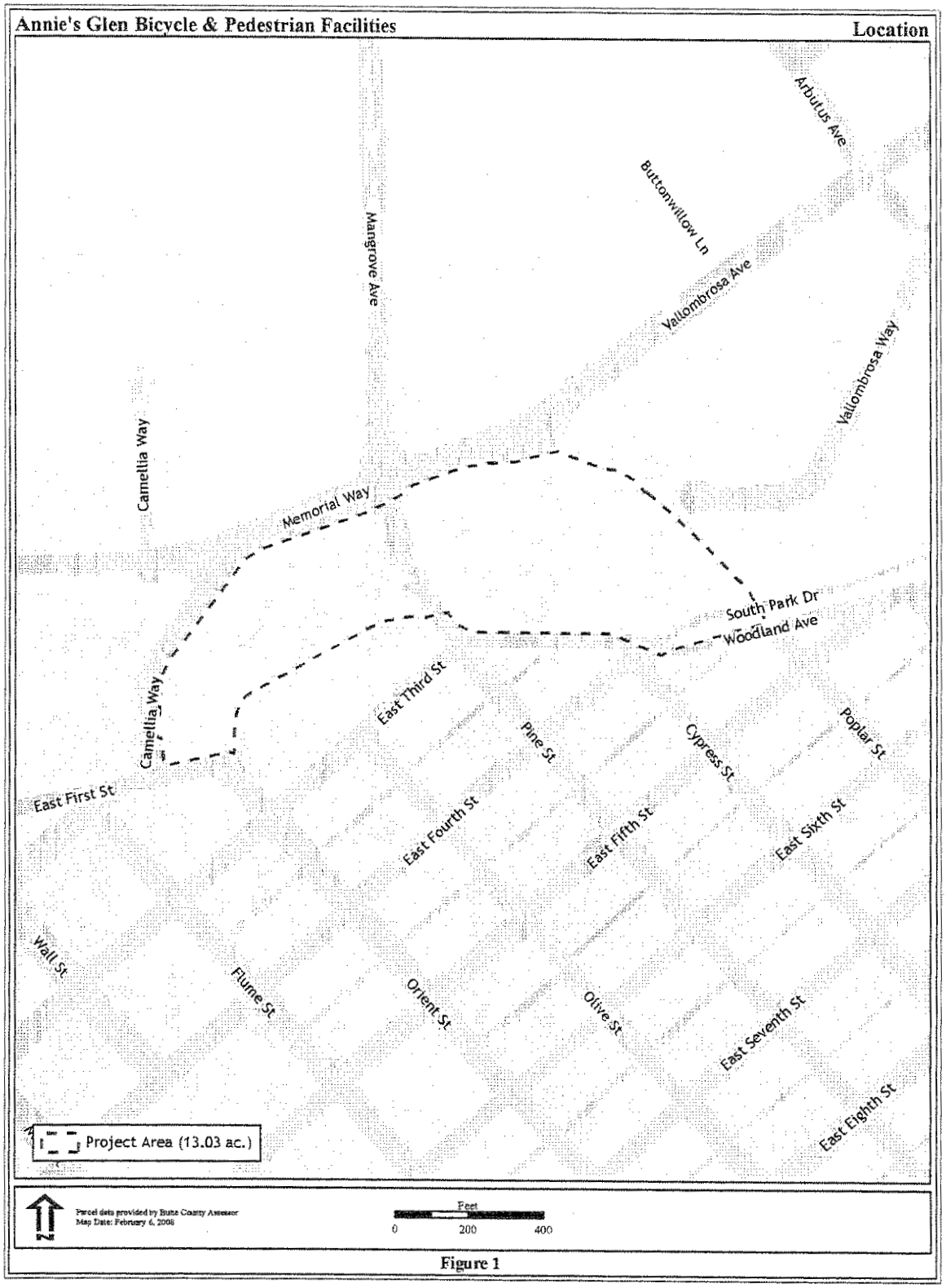
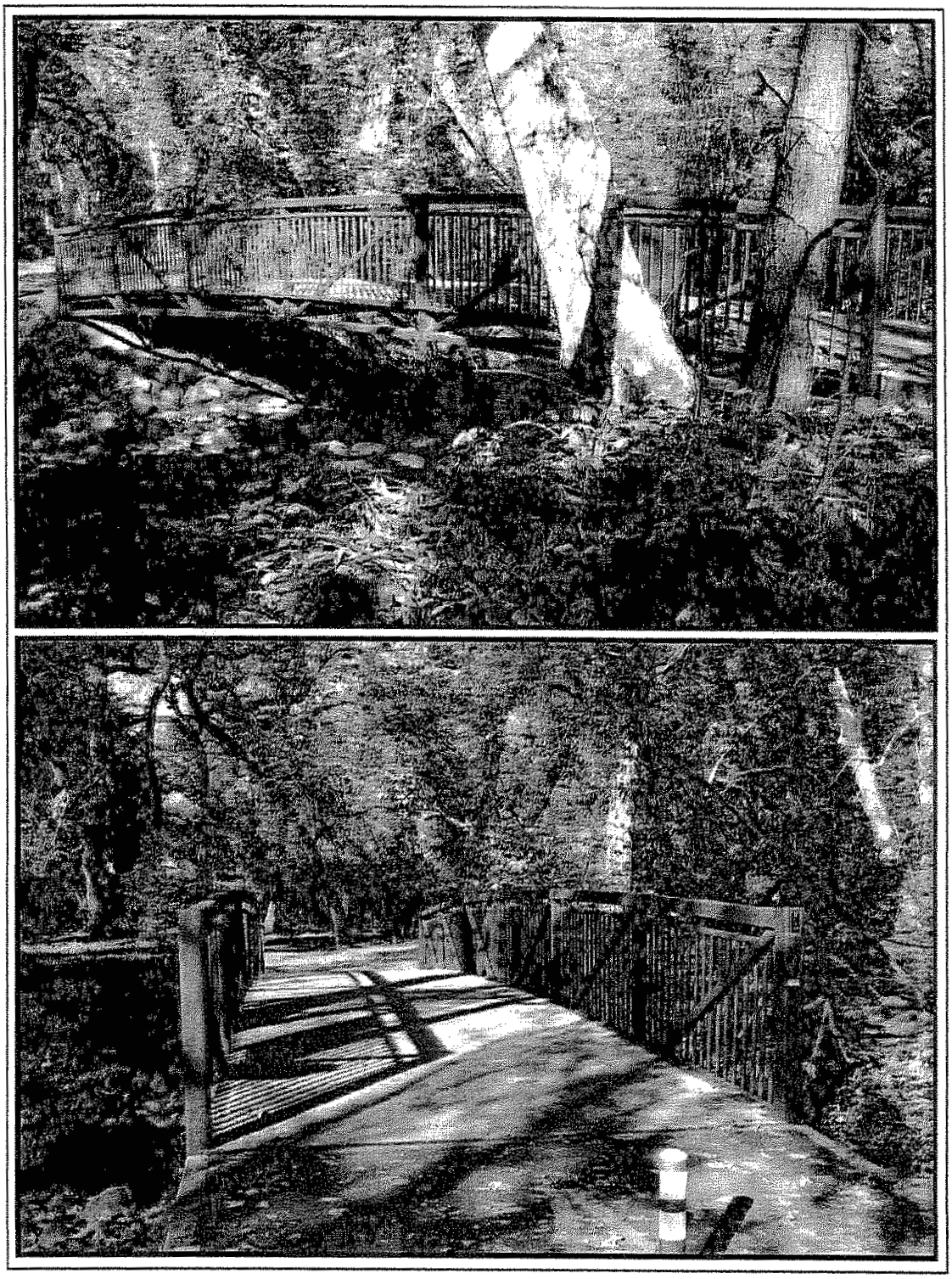



Figure 1

**Figure 2:** Pedestrian Crossing at Forest Avenue



## II. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Hazards /Hazardous Materials | ☐ Population/ Housing |
| ☐ Air Quality | ☒ Hydrology/ Water Quality | ☐ Public Services |
| ☒ Biological Resources | ☐ Land Use and Planning | ☐ Transportation/Circulation |
| ☒ Cultural Resources | ☐ Noise | ☐ Utilities |
| ☐ Geology /Soils | ☐ Open Space/ Recreation | |

## III. PLANNING DIRECTOR DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a potentially significant impact or have a potentially significant impact unless mitigated, but at least one effect has been adequately analyzed in an earlier document pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION including revisions or mitigation measures that are imposed upon the proposed project. No further study is required.

Tracy R Bettencourt, AICP 2/8/09
Signature Date

Tracy R Bettencourt, AICP Senior Planner For Stephen Peterson Planning Services Director
Printed Name

## IV. EVALUATION OF ENVIRONMENTAL IMPACTS

- Responses to the following questions and related discussion indicate if the proposed project will have or potentially have a significant adverse impact on the environment.

- A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources cited in the parentheses following each question. A "No Impact' answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants based on a project-specific screening analysis.

- All answers must take account of the whole action involved , including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operation impacts.

- Once it has been determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there is at least one "Potentially Significant Impact" entry when the determination is made an EIR is required.

- Negative Declaration: "Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The initial study will describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 4, "Earlier Analysis," may be cross-referenced).

- Earlier analyses may be used where, pursuant to tiering, a program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 155063(c)(3)(D)]. Earlier analyses are discussed in Section 4 at the end of the checklist.

- Initial studies may incorporate references to information sources for potential impacts (e.g. the general plan or zoning ordinances, etc.). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list attached, and other sources used or individuals contacted are cited in the discussion.

- The explanation of each issue should identify:
  a) The significance criteria or threshold, if any, used to evaluate each question: and
  b) The mitigation measure identified, if any, to reduce the impact to less than significant.

| **A. Aesthetics** Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Have a substantial adverse effect on a scenic vista, including scenic roadways as defined in the General Plan, or a Federal Wild and Scenic River (Big Chico Creek)? | | | X | |
| 2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | | | X | |
| 3. Affect lands preserved under a scenic easement or contract? | | | | X |
| 4. Substantially degrade the existing visual character or quality of the site and its surroundings including the scenic quality of the foothills as addressed in the General Plan? | | | X | |
| 5. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | | | X | |

DISCUSSION

Lower Bidwell Park is characterized as a mixed riparian forest, and Big Chico Creek is a perennial stream. The project area supports a variety of physical and biological resources. The City's General Plan includes guiding and implementing policies which seek to preserve visual resources within the community. Policies aim to protect and enhance the image and identity of the community and its natural landscape, heighten the visual prominence of features through special design criteria and restrictions, and establish a sense of orientation and identity within the City. For example, Community Design Element Goals CD-G-6, CD-G-7, CD-G-12, CD-G-13, and CD-G-14 aim to improve the connectivity, access and role of Big Chico Creek, Bidwell Park and the surrounding neighborhoods.

Vallombrosa Avenue, the northern boundary of the project site, is classified as a scenic roadway in the General Plan. Additionally, the City of Chico has designated Resource Conservation Areas (RCAs), which contain sensitive and valuable habitats that require protection and conservation in perpetuity. RCAs contain habitats which support special status species, and also serve as important wildlife movement corridors. Bidwell Park, especially areas adjacent to Big Chico Creek, is designated as an RCA. Thus, the project site is within a designated RCA.

**A.1 – A.5:** The extent of visual changes will be minimal and designed to reflect other creek crossing corridors in the Park. The proposed project would require the removal of one sycamore tree to the north of Big Chico Creek. Other trees would likely need to be trimmed to ensure adequate vertical clearance of the proposed facilities. The project will adhere to the City's replanting requirements where applicable to mitigate potential impacts to trees within the project site. Potential impacts to riparian vegetation would also be required to

adhere to the CDFG mitigation planting requirements per §1600 of the Fish and Game Code (see §C, Biological Resources, of this document for further discussion).

The proposed project was reviewed by the Bidwell Park and Playground Commission on December 17, 2007 to ensure compliance with applicable design standards. The proposed bridge is similar in appearance to the pedestrian bridges over Big Chico Creek at Forest Avenue and Manzanita Avenue, which were approved by the Commission during their respective review processes (**Figure 2**).

The bridge would be constructed according to City standards identified in Titles 12, 16 and 19 of the Municipal Code and the relevant Community Design goals of the General Plan. The Bidwell Park and Playground Commission review did not raise concerns regarding aesthetic characteristics of the previously approved, stylistically-similar pedestrian bridges at Forest and Manzanita Avenues.

As the proposed project is a bike path, it would not introduce substantial light-generating facilities to the area. The proposed underpass would incorporate lighting to ensure visitor safety and compliance with applicable design standards. As the lighting would be installed in an underpass, light "spillover" to adjacent parcels is not expected. Similarly, the project would install lighting along Phase A, where adequate lighting is currently lacking. The proposed lighting would ensure the facilities meet applicable safety standards for class I bikeways. The facilities would be designed pursuant to City standards identified in Chapter 19 of the Municipal Code (Land Use and Development). Adherence to City lighting standards identified in 19.60.050 and 19.66 of the Municipal Code ensures less than significant potential effects generated by light-emitting facilities. The proposed project would meet the dual mandates of lighting (ensure safety and avoid aesthetic impacts) through adherence to the applicable design standards.

The proposed project would not incorporate highly reflective materials or vertical facilities that could generate substantial glare.

As such, potential aesthetic impacts resulting from the proposed project would be **less than significant**.

Mitigation: None Required

| **B. Air Quality** Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Conflict with or obstruct implementation of the applicable air quality plans (e.g. Northern Sacramento Valley Air Basin 1994 Air Quality Attainment Plan, Chico Urban Area CO Attainment Plan, and Butte County Air Quality Management District Indirect Source Review Guidelines)? | | | X | |
| 2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation. | | | X | |
| 3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | | | X | |
| 4. Expose sensitive receptors to substantial pollutant concentrations? | | | X | |
| 5. Create objectionable odors affecting a substantial number of people? | | | | X |

DISCUSSION:

Butte County has been designated a non-attainment area for two criteria pollutants, ozone ($O_3$) and particulate matter (PM), based on state and/or federal standards. Ozone is not directly emitted by sources. Rather, it is the product of reactive organic compounds (ROG), nitrogen oxides ($NO_X$) and atmospheric conditions. Therefore, ROG and $NO_X$, which are most commonly generated by motor vehicle emissions, are considered $O_3$ precursors. Particulate matter is subcategorized based on diameter, 10 microns and smaller and smaller than 2.5 microns ($PM_{10}$ and $PM_{2.5}$ respectively).

**Table 1: Air Quality Attainment Status**

| Pollutant | Federal Status | State Status |
|---|---|---|
| **$PM_{10}$** | Unclassified | Non-Attainment |
| **$PM_{2.5}$** | Unclassified | Non-Attainment |
| **$O_3$** | Non-Attainment | Non-Attainment |

The Butte County Air Quality Management District (BCAQMD) has established action-level thresholds, labeled Levels A, B and C, to assist in evaluating the amount of mitigation a project must implement to successfully reduce potential air quality impacts from indirect sources. Level A represents the lowest emissions while Level C generates the most. According to the BCAQMD Indirect Source Review Guidelines (ISRG), all projects with the potential to increase vehicular activity should implement all appropriate standard mitigation

measures (SMM). Projects that are expected to exceed Level A thresholds must also implement all feasible best available mitigation measures (BAMM). These measures are intended to reduce reactive organic gas (ROG), nitrogen oxide ($NO_X$) and $PM_{10}$ emissions before, during and after construction. The proposed project is expected to improve pedestrian and cycling conditions in the project area. These improved conditions would include safer conditions and more direct access to Chico Junior High School per Safe Routes to School standards. Increased bicycle and pedestrian commutes within the project area would be expected to reduce the generation of criteria pollutants over pre-project conditions.

Construction-related activities can create temporary increases in fugitive dust emissions within the immediate vicinity of the project site. The City requires the inclusion of dust suppression measures in all grading plans (OS-I-8) and appropriate measures intended to reduce construction-related exhaust emissions (OS-I-9). The City's General Plan EIR, in accordance with applicable regulations, sets forth mitigation measures that are intended to reduce fugitive dust generated by construction activities. Approval from the Building and Development Services Department is further contingent on adherence to any other appropriate guidelines at the local, state and federal levels, including the CBC as adopted by the Chico Municipal Code.

**B.1, B.2, B.4, B.5:** Since the proposed project will not create a source of new vehicle traffic, no long-term air quality impacts related to exhaust emission from vehicular traffic would occur. The proposed project is not expected to create significant objectionable odors, nor would it expose sensitive receptors to substantial concentrations of criteria pollutants. The proposed project is expected to improve pedestrian and cycling conditions in the project area. Therefore, potential air quality impacts are expected to occur at levels considered **less than significant**.
Mitigation: None Required

**B.3:** The proposed project could result in short-term pollutant emissions from excavation and related construction activities.

*Short-term Impacts from Construction Activities*
Construction-related activities, such as grading and construction vehicle operation, could create a temporary increase in fugitive dust emissions on the project site and within the immediate vicinity of the project site. According to the BCAQMD, Butte County is a designated non-attainment area for ozone and particulate matter. Most of the dust generated would be large enough to quickly settle. In addition, due to the limited amount of ground disturbance proposed on the site, the amount of grading is not expected to be significant. The City's Grading Ordinance does require dust suppression measures to be included in all grading plans. To ensure that appropriate measures are implemented during construction activities, the City requires adherence to the Standard Mitigation and Monitoring Program set forth in the BPTM. Where applicable, the project would be required to implement the standard measures as a standard condition of approval. Therefore, the following standard mitigation program shall be implemented:

To minimize fugitive dust and exhaust emissions during construction activities, the following shall be included in all construction plans and documents for the project:

a. Water all active construction areas at least twice daily. The frequency should be based on the type of operation, soil conditions, and wind exposure.
b. If necessary, apply chemical soil stabilizers to inactive construction areas (disturbed areas that are unused for at least four consecutive days) to control dust emissions.

Dust emissions should be controlled at the site for both active and inactive construction areas throughout the entire construction period (including holidays).

c. Limit vehicle speeds to 15 mph on unpaved roads.
d. Suspend land clearing, grading, earth moving, or excavation activities when wind speeds exceed 20 mph.
e. If applicable, apply non-toxic binders (e.g. latex acrylic copolymer) to exposed areas after cut and fill operation and hydroseed the area.
f. Cover inactive storage piles.
g. Applicant shall consult with the BCAQMD about the application of a paved (or dust palliative treated) apron onto the project site.
h. Sweep or wash paved streets adjacent to the site where visible silt or mud deposits have accumulated due to construction activities.
i. Post a publicly visible sign at the construction site with the name and telephone number of the person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of the BCAQMD shall also be visible to ensure compliance with BCAQMD rules 201 and 207 (Nuisance and Fugitive Dust Emissions).
j. Prior to final occupancy/use, the applicant shall demonstrate that all ground surfaces are treated sufficiently to minimize fugitive dust emissions. Fugitive dust emissions are considered dust clouds caused by wind, traffic, or other disturbances to exposed ground surfaces.
k. Exhaust emissions shall be minimized by maintaining equipment in good repair and proper tune according to the manufacturer's specifications.
l. If construction activities occur during smog season (May-October), equipment will not be allowed to idle for long periods of time.

The standard conditions listed above will be specified in the relevant project plans and construction contract requirements. The Building and Development Services Department regularly conducts inspections to verify compliance.

In addition to the City's standard mitigation program, the project would be required to obtain a CASWP from the RWQCB, which would include site-specific, sediment transport and fugitive dust controls.

Through adherence to applicable standards and regulations, including implementation of the standard mitigation measure listed above, potential air quality impacts would be maintained at a level that is **less than significant**.

| **C. Biological Resources**<br>Will the project or its related activities result in: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species as listed and mapped in the MEA or in other local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | | X | | |
| 2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the MEA or in other local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service. | | X | | |
| 3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | | X | | |
| 4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | | X | | |
| 5. Result in the fragmentation of an existing wildlife habitat, such as blue oak woodland or riparian, and an increase in the amount of edge with adjacent habitats. | | | X | |
| 6. Conflict with any local policies or ordinances, protecting biological resources? | | | X | |

DISCUSSION:

A biological Resource Assessment (BRA) was prepared for the proposed project due to the likely presence of special-status biological resources in the project area. Similarly, a (Draft) Delineation of Waters of the United States (Wetland Delineation) was prepared for the proposed project. The BRA and Wetland Delineation were prepared by Gallaway Consulting, Inc. (GCI) in September, 2007 and January, 2008 respectively.

During preparation of the BRA, several data sources were consulted to identify special-status biological resources potentially occurring within the project area. Data sources included the Chico General Plan, MEA and BPTM, the CNDDB, the USFWS and the CNPS. A list of recorded occurrences of special-status species was compiled from CNDDB data for the Chico, and eight surrounding, 7.5-minute USGS quadrangles. Biological field surveys were then conducted by GCI staff to evaluate the project site's physical characteristics. Each potentially occurring special-status species identified during preliminary consultation was then evaluated for its potential to occur within the project site, based on the data gathered during the field surveys. The following biological resources are identified as occurring, or having at least a moderate potential to occur, within the project site:

**Table 2: Potentially Occurring Special Status Species**

| Species | Status | Potential |
|---|---|---|
| *Sensitive Natural Communities* | | |
| Great Valley/Oak Riparian Forest | | Known to occur in project area |
| *Invertebrates* | | |
| Valley elderberry longhorn beetle | FT | High: Suitable habitat present in project area |
| *Fish* | | |
| CV spring run Chinook salmon | FT/ST | High: Site is within designated critical habitat |
| Central Valley steelhead | FT/ST | High: Site is within designated critical habitat |
| *Mammals* | | |
| Pallid bat | CSC | High: Documented within 1 mile of site |
| *Birds* | | |
| Raptors/Migratory birds | varies | High: Suitable foraging/nesting habitat |

The above-listed biological resources are protected at varying levels by local, state and/or federal regulations and policies.

The (Draft) Wetland Delineation identified the following pre-jurisdictional water features in the project site: one (1) Perennial Stream (Big Chico Creek) and four (4) Riparian Wetland Features.

Big Chico Creek is described as having an average width of 47 feet and comprising 2.046 acres of the project site. The wetland features are described as riparian wetlands abutting Big Chico Creek. Two riparian wetlands were delineated west of the Pine Street alignment and two were delineated to the east. Only one of the wetland features, WF01, is located on the northern bank of Big Chico Creek. The combined water features identified in the pre-jurisdictional delineation represent approximately 1,917 linear feet and 2.7 acres.

**Table 3: Pre-Jurisdictional Water Features**

| *Wetland Features* | | | | | | |
|---|---|---|---|---|---|---|
| Type | Adjacency | Label | Avg. Width | Length | Area (ft.$^2$) | Acres |
| Riparian | Abutting | WF01 | n/a | n/a | 5937.243 | 0.136 |
| Riparian | Abutting | WF02 | n/a | n/a | 12939.982 | 0.297 |
| Riparian | Abutting | WF03 | n/a | n/a | 4782.869 | 0.110 |
| Riparian | Abutting | WF04 | n/a | n/a | 5874.436 | 0.135 |
| | | | Riparian Total = | n/a | 29534.529 | 0.678 |
| | | | *Total of All WF =* | *n/a* | *29534.529* | *0.678* |
| *Other Waters of the U.S.* | | | | | | |
| Type | Designation | Label | Avg. Width | Length | Area (ft.$^2$) | Acres |
| Perennial | RPW | OW01 | 47 | 1916.948 | 89141.256 | 2.046 |
| | | | | | | |
| | | | **Total** | **1916.948** | **118,675.78** | **2.740** |

The figures set forth in the Draft Wetland Delineation should be considered preliminary, pending verification by the USACE.

The project site is located within the riparian corridor of Big Chico Creek at the western extent of Lower Bidwell Park. The BPMMP, MEA and CNDDB identify the project site as Great Valley Mixed Riparian Forest, which is a Sensitive Natural Community per DFG guidelines.

Big Chico Creek is identified as anadromous fish habitat by the USFWS, NOAA, DFG and the MEA. Specifically, the segment of Big Chico Creek that bisects the project site is identified as potential habitat for Central Valley spring-run Chinook salmon and Central Valley steelhead. Both species are state and federally listed as threatened.

The two anadromous species are found throughout the Sacramento River and associated freshwater tributaries with habitat occurring within Big Chico, Sycamore and Mud Creeks. Big Chico Creek is a perennial stream that originates northeast of the City of Chico, in the Lassen National Forest. The valley zone of Big Chico Creek extends eastward from the Sacramento River to upper Bidwell Park, up-gradient of the project site.

Spring run Chinook salmon enter Big Chico Creek from late February to May and spawn in the early fall. The segment of Big Chico Creek adjacent to the project site is within the designated Critical Habitat for this species, as identified by NOAA Fisheries.

Central Valley steelhead is genetically identical to rainbow trout. The two "races" are distinguished from one-another by their migratory behavior, with the former being anadromous and the latter resident. As with spring-run Chinook salmon, the project site is within designated Critical Habitat for Central Valley steelhead.

The valley elderberry longhorn beetle (VELB) is a federally threatened species. The beetle is commonly found near riparian habitats within the Central Valley. However, this species' range spans the Sierra foothills, and may reach elevations of 2,200 feet. This beetle uses elderberry shrubs solely to incubate its larvae. For this reason, elderberry shrubs are considered habitat for this species. A focused survey for elderberry shrubs within the project site was conducted in accordance with current USFWS guidelines. When accessible, all applicable elderberry shrubs were inventoried and mapped, a count of the number of elderberry stems measuring more than one inch at ground level were tallied according to diameter size class, the presence or absence of VELB exit holes was determined and the

shrubs where characterized as being associated with riparian or non-riparian habitat. Habitat for the VELB is present within the project site.

Relative to biological resources, the project is proposed in a regulatory context that includes local, state and federal jurisdictions. The following standards, guidelines and regulations are likely applicable to the proposed project as it pertains to special-status biological resources that may occur in the project area:

**Local:**

Chico Municipal Code

- Title 16 (Buildings and Construction): Building, Grading, Floodplain and Tree Preservation Regulations.
- Title 16R (Building Standards): Adopts the standards of the UBC and State Building Code. Projects must implement appropriate BMPs that shall "safeguard ... life, health, property, safety ... and environment."

City of Chico Best Practices Technical Manual

- Implementation Guide for Project Review: Requires compliance with Chico Municipal Code Chapter 1.4 (Environmental Review Guidelines)

- Standard Mitigation and Monitoring Program for Air Quality: Requires incorporation of pertinent BMPs during construction activities.

- Standard Mitigation and Monitoring Program for Storm Drain Outfalls, Stream Crossings, or Other Intrusions into a Creek: Requires acquisition of appropriate permits/approvals from the USACE, RWQCB and DFG.

- Standard Mitigation Measure Where Removal of Riparian Vegetation Occurs: Requires avoidance of vegetation impacts to the extent feasible and mitigation plantings for unavoidable losses.

- Standard Mitigation and Monitoring Program for Raptor Habitat: Requires compliance with the federal Migratory Bird Treaty Act and state Fish and Game code protecting raptors.

- Standard Mitigation and Monitoring Program for Creekside Greenways: Requires relevant BMPs for projects proposed near creekside greenways identified in General Plan.

- Standard Mitigation and Monitoring Program for Oaks and Other Trees: Regulations for potential impacts to City-owned trees, specifications for tree work and tree protection specifications.

- Standard Mitigation and Monitoring Program for Wetlands: Standards include adherence to all applicable federal, state and regional requirements prior to project approval.

- Standard Mitigation and Monitoring Program for Stormwater Management:

Standard Conditions: No net increase of volume/rate of runoff, long-term funding for all stormwater facilities and appropriate BMPs to intercept "first flush" contaminants from initial ½-inch of each rainfall event.

- Municipal Code 16R.22: Grading plans and contracts shall include appropriate measures, including sediment control, BMPs, setbacks, runoff control, re-vegetation, slope stabilization, protection of watercourses, disposal of cleared material and fill.

- BMPs Implemented where practicable and relevant include (but are not limited to):
  - Staging Areas: These areas will be located away from sensitive biological resources, habitat, water features, et cetera.
  - Watering Construction Sites: To control fugitive dust emissions (which, otherwise, could impact air quality and biological resources).
  - Fenced/Cordoned-Off Areas of Biological Sensitivity: To ensure avoidance of intrusion in these areas.
  - Employee Education: To illuminate the importance of biological resources within the project area, appropriate avoidance measures and potential penalties for generating impacts to special-status biological resources.
  - Erosion, Siltation and/or Stormwater Measures: Shall ensure construction activity and long-term water quality protection.

City of Chico General Plan

- Community Design, Land Use, Transportation, Parks, Public Facilities, and Services, Open Space and Environmental Conservation and Safety and Safety Services Elements: The General Plan sets forth guidelines and policies that inform development processes. The project would be required to obtain all necessary agency approvals and permits and implement appropriate BMPs and design standards, as set forth in the General Plan and identified throughout this study.

City of Chico Storm Water Management Program

In compliance with state and federal water quality regulations, the City has developed a Storm Water Management Program (SWAP). The SWAP was developed in compliance with the Phase II NPDES permitting regulations established by the EPA in 1999. The SWAP consists of six elements: Public Education/Outreach, Public Participation/Involvement, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post-Construction Stormwater Management and Pollution Prevention/Good Housekeeping (Municipal Operations). The proposed project shall adhere to relevant and practicable standards and regulations identified in the SWAP, including implementation of BMPs and development of a SWPPP.

**Public Agency Approvals:**

California Department of Fish and Game

- Trustee Agency: DFG is consulted by the CEQA lead agency when a project involves resources under the Department's jurisdiction.

- Responsible Agency: The project would require acquisition of a §1600 Streambed Alteration Agreement or a waiver thereof. Additionally, the project would require DFG consultation due to the presence of listed species per CESA.

United States Army Corps of Engineers

- Clean Water Act: The project would require acquisition of a §404 Permit, or a waiver thereof.

Central Valley Regional Water Quality Control Board

- Clean Water Act: The project would require §401 water quality certification as a condition of §404 permit acquisition.

- Clean Water Act: The project would require a Construction Activity Storm Water Permit, with an approved storm water pollution prevention plan, per §402.

- Porter-Cologne Water Quality Control Act: The RWQCB has further stated that the §401 certification program has become *...the State's de facto wetland protection regulation program...* (RWQCB, 2005)

United States Fish and Wildlife Service

- Endangered Species Act: The project would require §7 consultation and an incidental take permit, or informal consultation through technical assistance as the valley elderberry longhorn beetle has the potential to occur within the project site.

NOAA National Marine Fisheries Service

- Endangered Species Act: The project would require §7 consultation and consistency with §9 of the ESA, which prohibits take, including detrimental habitat modifications, as Big Chico Creek is within designated critical habitat for two federally listed anadromous fish species.

**C.1 – C.6:** The project site contains, or may contain, special-status biological resources that have been identified at the local, state and/or federal level.

Riparian

The project is proposed in a riparian setting that is designated by the DFG as a sensitive natural community and a Sensitive Biological Resource in the MEA. The proposed bikeway alignment would occur in Bidwell Park, which is identified as a Resource Conservation Area (RCA) in the Chico General Plan. Resource Conservation Areas contain the most sensitive and valuable habitats which require protection and are conserved in perpetuity. Resource Conservation Areas provide opportunities for various non-development oriented uses including limited passive recreation. The establishment of bicycle paths is considered "limited passive recreation." The proposed project, through avoidance of impacts to sensitive natural resources would remain consistent with General Plan Open Space and Environmental Conservation goals OS-G-5, OS-G-6, and OS-G-7, which promote protection of sensitive natural resources, as well as implementing policy OS-I-22, which permits the development of pedestrian and bicycle facilities within RCAs. Facilities proposed in the area of riparian vegetation include an asphalt pathway, a clear-span pedestrian crossing of Big Chico Creek and a grade-separated underpass at Pine Street. The project would construct facilities within the riparian corridor adjacent to Big Chico Creek in Lower Bidwell Park. The project proposes removal of one sycamore tree on the northern bank of Big Chico Creek. The tree would be removed to facilitate installation of the pedestrian crossing outside the Creek's ordinary high water mark. Additionally, several trees would require trimming to ensure adequate vertical clearance of the proposed pedestrian crossing of Big Chico Creek and the ADA-compliant paths connecting existing facilities along Pine Street to the proposed bikeway facilities below. As a result, the project has the potential to generate potentially significant impacts to the riparian vegetation within the project site. Impact C.1 shall require implementation of the following:

Mitigation Measure C.1 (Biological Resources): Prior to the issuance of a grading permit, a Streambed Alteration Agreement shall be obtained from CDFG, pursuant to Section 1600 of the California Fish and Game Code, for any activities affecting bed, bank, or associated riparian vegetation of the stream. If required, the project applicant shall coordinate with CDFG in developing appropriate mitigation, and shall abide by the conditions of any executed permits.

MITIGATION MONITORING C.1 (Biological Resources): Prior to the commencement of construction activities, the City's Capital Project Services will coordinate with the consulting biologist to ensure the timely initiation of the above mitigation measure.

Through adherence to Mitigation Measure C.1, the City's Standard Mitigation Measure Where Removal of Riparian Vegetation Occurs (as identified in the BPTM) and all mitigation measures identified in this study, the project would generate potential riparian impacts considered **less than significant with mitigation incorporated**.

Jurisdictional Waters

The proposed project would construct a clear-span pedestrian bridge over Big Chico Creek and a new outfall near the existing bridge at the Pine Street/Big Chico Creek Interchange. The pedestrian bridge and outfall would be constructed as part of Phase B, as described in the Project Description Section of this study. The project proposes construction of all facilities in one season. However, the permitting process for Phase B may preclude installation of these facilities during the same dry season as Phase A. As such, the construction of Phase B may be delayed until the following construction season, pending acquisition of the necessary permits and approvals from the regulatory agencies.

The U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the United States under §404 of the Clean Water Act (CWA). "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to, the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

In addition, §401 of the CW A (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows.

The proposed clear-span pedestrian bridge is designed, and will be implemented, in a manner that is consistent with Title 16 of the Chico Municipal Code and the UBC. Through adherence to Title 16 and the CBC, including implementation of relevant BMPs, the proposed pedestrian bridge would avoid direct and indirect impacts to waters of the US and waters of the State. In so doing, the clear-span structure will be consistent with Chapter 12R.04 (Parks and Playgrounds) of the Chico Municipal Code, which states projects "shall not contaminate or pollute" the waters of Big Chico Creek.

The project would also construct a new outfall structure along Big Chico Creek. This outfall would be required to adhere to the City's SWMP, per §402 of the CWA. All discharges to the Municipal storm water system must adhere to applicable BMPs and design standards.

The improvements associated with Phase B and the associated storm-water discharges, would result in potential impacts to jurisdictional waters of the US. Potential Impact C.2 shall require implementation of the following:

Mitigation Measure C.2 (Biological Resources): The proposed project has the potential to generate impacts to Waters of the United States. Therefore, the proposed project shall

adhere to relevant guidelines set forth in Clean Water Act, including acquisition of all necessary permits. As a result, the following actions shall be required of the proponent:

- The proponent shall obtain a §404 CWA permit from the USACE, or a waiver thereof, prior to the construction of Phase B or the installation of new outfall(s).
- As a condition of §404 approval, the proponent shall obtain water quality certification from the RWQCB under authority of the SWQCB and the USACE, or a waiver thereof, pursuant to §401 of the CWA.
- As the project would disturb greater than one acre, the proponent shall obtain a Construction Activity Storm Water Permit, or a waiver thereof, from the RWQCB. The permit shall incorporate an approved Storm Water Pollution Prevention Plan per §402 of the CWA.
- The project shall adhere to the City of Chico SWAP, including incorporation of appropriate BMPs, per §402 of the CWA (Phase II, MS4 regulations).

Mitigation Monitoring C.2 (Biological Resources): Prior to the commencement of applicable construction activities, Capital Project Services shall ensure that the necessary permits, certifications and agreements have been obtained and that all special conditions and mitigations of the regulatory agencies have been incorporated the appropriate final plans.

The proposed project would be required to adhere to the requirements of the CWA, including §404, §402 and §401 and §1600 of the state Fish and Game Code, in addition to the standards, requirements and mitigation measures identified in this study. The proposed project would be required to adhere to the standards of the regulatory agencies. Therefore, the proposed improvements would generate potential impacts to jurisdictional waters of the state and waters of the US that would be considered **less than significant with mitigation incorporated**.

Special-Status Species

The federally threatened VELB has a high potential to occur within the project site. This species relies solely on the blue elderberry to complete its lifecycle. Elderberry shrubs and clusters, which are suitable habitat for the valley elderberry longhorn beetle, were identified on the project site during field surveys. Additionally, there are several documented occurrences of this species along the Big Chico Creek riparian corridor.

The City's Best Practices Technical Manual requires implementation of a plan that sets forth appropriate avoidance measures for sites that may be occupied by VELB. These measures are required to ensure avoidance of potential impacts to the species. At a minimum, site-specific VELB avoidance plans must include the following measures:

- All elderberry shrubs shall be avoided during construction activities.
- Elderberry shrubs shall be fenced or flagged during construction activities.
- Prior to initiation of construction, contractors and work crews shall be briefed on the need to avoid damaging elderberry plants and the possible penalties for not complying with these requirements. If necessary, the City shall hire a qualified firm to conduct the briefing(s).
- Signs shall be erected every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment."
- The project shall not result in impacts, including damage, removal or modification, to elderberry shrubs.

The plans, specifications and contracts for the proposed project would be reviewed for compliance with the BPTM as a standard condition of approval. Nevertheless, the project may generate potential impacts to the federally listed VELB. Potential Impact C.3 shall require implementation of the following:

Mitigation Measure C.3 (Biological Resources): Where possible, the project shall avoid developing areas where elderberry shrubs are present. Typically, the USFWS requires a minimum 20-foot setback from the outer dripline edge of each shrub. However, if work is occurring within 100 feet of elderberry shrubs with stems greater than 1 inch in diameter at ground level, consultation with USFWS shall be required to ensure potential impacts to VELB are appropriately minimized or avoided. As the proposed project would conduct activities within 100-feet of elderberry shrubs, approval from the USFWS shall be obtained prior to commencement of construction activities.

The project shall obtain approval from the USFWS prior to the construction of either phase. As the proposed facilities may be installed over two construction seasons, this requirement will ensure the USFWS project review occurs within the context of a "federal nexus."

The performance standards of the USFWS would ensure adequate avoidance and/or mitigation of potential impacts to VELB.

Mitigation Monitoring C.3 (Biological Resources): Prior to commencement of, and during, construction activities Capital Project Services shall ensure that the mitigation measure is implemented through inclusion in construction contracts and field inspections by City staff.

Through acquisition of project approval from the USFWS and adherence to all applicable design and avoidance standards, the proposed project would generate potential impacts to VELB that are considered **less than significant with mitigation incorporated**.

Central Valley steelhead and spring-run Chinook salmon, which are listed as threatened at the state and federal levels, are known to occur in Big Chico Creek. Furthermore, the segment of the creek that bisects Lower Bidwell Park is within designated critical habitat for both anadromous species. Therefore, the proposed project has the potential to impact federally and state listed anadromous fish resulting from the construction of Phase B and a new outfall near the Pine Street Bridge. Potential Impact C.4 shall require implementation of the following:

Mitigation Measure C.4 (Biological Resources): Prior to acquisition of a §404 CWA permit, the proponent shall obtain project approval from NOAA (NMFS) per §7 of the ESA. Pursuant to the ESA, a project shall not result in the un-permitted take of federally listed species. Therefore, project approval from NOAA is indicative of compliance with the ESA.

Mitigation Monitoring C.4 (Biological Resources): Prior to the commencement of construction activities, Capital Project Services shall ensure that the necessary permits, certifications and agreements have been obtained and that all special conditions and mitigations of the regulatory agencies have been incorporated the appropriate final plans.

Through implementation of Mitigation Measure C.4 and adherence to all applicable measures and BMPs, the proposed project would result in potential direct and indirect impacts to anadromous fish that would be considered **less than significant with mitigation incorporated**.

Raptors and Migratory Birds
Raptors, such as hawks and owls, may nest in the large trees within the project site. The disturbance, removal or destruction of active raptor nests is considered a violation of the California Fish and Game Code Section 3503.5.

The Migratory Bird Treaty Act (MBTA) protects migratory birds, their occupied nests and eggs. The mature trees and riparian habitat in the project area provide nesting habitat for raptors and migratory birds. Activities, including noise generated by construction equipment, associated with the development of the proposed facilities could negatively affect these special-status birds. Potential Impact C.5 shall require implementation of the following:

Mitigation Measure C.5 (Biological Resources): If construction is proposed during nesting season (February 15th through September 15th), a pre-construction survey for raptors shall be conducted by a qualified biologist within 30 days prior to the onset of construction activities to determine if active nests are in the study area. If active nests are found, no construction activities shall take place within 500 feet of the nests until the young have fledged, to be determined by a qualified biologist. If no active nests are found during the focused survey, no further mitigation will be required for nesting raptors or migratory birds. If construction is proposed during the non-nesting season, no surveys are required.

The proposed facilities may be installed over two construction seasons. Construction activities carried out in subsequent nesting seasons shall require pre-construction surveys per this mitigation measure.

Mitigation Monitoring C.5 (Biological Resources): Prior to commencement of construction activities, Capital Project Services will coordinate with the City's consulting biologist to ensure the timely initiation of the above mitigation measure.

The incorporation of Mitigation Measure C.5 into the project development process would reduce the potential for impacts to nesting raptors and migratory birds to levels that are considered **less than significant with mitigation incorporated.**

Mammals
The pallid bat is identified in the BRA prepared for the proposed project as potentially occurring within the project site. This species is identified by the DFG as a Species of Special Concern. General Plan Policy OS-G-6 states *Preserve and protect populations and supporting habitat of special status species...including...California Species of Special Concern.* Thus, while Species of Special Concern carries no legislative status at the state level, the City has implemented policies that specifically identify these species locally as "special status." The species is unique among bats in that it feeds from the ground, while most bats capture prey on the wing. The proposed project would result in a slight increase in impervious area over pre-project conditions. Additionally, the proposed project would not result in land use changes over pre-project conditions. The proposed project would not be expected to impact potential foraging habitat for the pallid bat.

The proposed project would remove one sycamore tree and trim the branches of other trees within the project site. While unlikely, these activities could impact bats roosting in the subject trees. This species tends to roost in crevices, caves, mines and bole cavities in trees. Typically, tree roosts are found in cavities or exfoliating bark, common among Ponderosa pines and valley oaks. The pallid bat is unlikely to roost in the trees that are proposed for trimming and/or removal. Additionally, the project site would retain the vast majority of trees and riparian habitat currently on the site. Upon project completion, the

project site would provide essentially the same potential habitat for the pallid bat as pre-project conditions. Therefore, the project would generate potential impacts to special-status bat species that are considered **less than significant**.

In addition to the standard local, state and federal conditions of approval, the proposed project would be required to implement all mitigation measures listed in this study. In order to identify biological resources potentially occurring within the site, a BRA and (Draft) Wetland Delineation were prepared for the proposed project. The biological resources that occur, or may occur, within the project site were identified through a literature review, agency consultation and subsequent field surveys. Mitigation Measures C.1 through C.5 are required of the proposed project in addition to all applicable standard conditions of approval, design standards and BMPs. Therefore, the proposed project would generate potential impacts to biological resources that are considered **less than significant with mitigation incorporated**.

| **D. Cultural Resources**<br>Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Cause a substantial adverse change in the significance of an historical resource as defined in PRC Section 15064.5? | | | X | |
| 2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to PRC Section 15064.5? | | | X | |
| 3. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature? | | | X | |
| 4. Disturb any human remains, including those interred outside of formal cemeteries? | | | X | |

DISCUSSION:

Cultural Resource Associates (CRA) conducted an Archaeological Evaluation for the proposed project. The evaluation included a record search at the Northeast Information Center (NEIC) at CSU, Chico, consultation with the Native American Heritage Commission, consultation with interested Native American parties and pedestrian field surveys of the project site. No known significant cultural resources were identified within the project site during the records search. Neither the Native American Heritage Commission nor interested Native American parties expressed specific concerns regarding potential impacts to cultural resources that could be generated by the proposed project.

**D.1 – D.4:** There are no known significant resources that could be impacted by the proposed project. However, unknown cultural resources could be uncovered during grading and other earth-moving activities at the proposed project site. Thus, the project would be subject to the following Standard Mitigation and Monitoring Program:

Standard Program: Pursuant to the City of Chico's standardized mitigation and monitoring program for cultural resources, as identified in Section IV of the Best Practices Technical

Manual, a note shall be placed on all construction plans which informs the construction contractor that if any bones, pottery fragments or other potential cultural resources are encountered during construction, all work shall cease within the area of the find pending an examination of the site and materials by a professional archaeologist. This person will assess the significance of the find and prepare appropriate mitigation measures for review by Capital Project Services. All mitigation measures determined by Capital Project Services to be appropriate for this project shall be implemented pursuant to the terms of the archaeologist's report.

Monitoring: City staff will verify that the above wording is included in project plans, construction contracts and documents. Should cultural resources be encountered, the supervising inspector will be responsible for reporting any such findings to Capital Project Services, and a qualified archaeologist will be contacted to conduct meetings with on-site employees and monitor the referenced mitigation measures.

Grading and construction activities could unearth previously unidentified human remains. To ensure potentially significant impacts to newly-discovered human remains are avoided, the City has developed a Standard Mitigation and Monitoring Program, which is a standard condition of approval:

Standard Program: Pursuant to State Health and Safety Code section 7050.5, if human remains are unearthed during construction, the construction contractor must cease work within 100-feet of the discovery and notify the County Coroner. No further disturbance may occur until the Coroner, in consultation with the Native American Heritage Commission, has made the necessary findings as to the origins and disposition pursuant to Public Resource Code § 5097.98 and 5097.99 and the Native American Graves Protection and Repatriation Act. Compliance with the City's standardized mitigation and monitoring program, which ensures compliance with state and federal laws and regulations, ensures potential impacts to newly discovered human remains would be less than significant.

Monitoring: City staff will verify that the above wording is included in project plans, construction contracts and documents.

The proposed project would not generate potential impacts to known cultural resources. Implementation of the Standard Mitigation and Monitoring Programs, as set forth in the BPTM and identified in this study, would ensure potential impacts to currently unidentified cultural resources/human remains occur at levels considered **less than significant**.

Mitigation: None Required

| **E. Geology /Soils**<br>Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Div. of Mines & Geology Special Publication 42) | | | | X |
| b. Strong seismic ground shaking? | | | X | |
| c. Seismic-related ground failure, including liquefaction? | | | X | |
| d. Landslides? | | | X | |
| 2. Result in substantial soil erosion or the loss of topsoil? | | | X | |
| 3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | | | X | |
| 4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | | | X | |
| 5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water, or is otherwise not consistent with the Chico Nitrate Action Plan or policies for sewer service control? | | | | X |

DISCUSSION:

The project is proposed in Lower Bidwell Park, adjacent to the channel of Big Chico Creek. The NRCS identifies the project site as occurring within the Vina Fine Sandy Loam Map Unit. The Vina series soils occur within alluvial fans and flood plains, typically with slopes from 0 to 9 percent. Similarly, the City's General Plan MEA delineates the project site within the

Vina-Farwell Association (*Figure 10-2*). The project site's soil complex is characterized as deep and well drained with little or no erosion potential. The soil within the project site is characterized in the City's MEA as moderately expansive. Likewise, the site's liquefaction potential is described in the MEA as moderate.

According to the City's General Plan Final EIR (GPFEIR), there are no known earthquake faults in the project area. The GPFEIR noted that the urban area designated for future urban land uses contained little in the way of unique or unusual geologic features with the notable exception of the foothill areas along the eastern edge of the urban area. Currently, there are no designated Alquist-Priolo Special Study Zones within the Planning Area, nor are there any known or inferred active faults. The subject area is not located within a foothill area. The project site is not identified in the County or City General Plans as prone to landslides.

Title 16 of the City's Municipal Code establishes building and construction standards to which all applicable projects must adhere. As identified in the Municipal Code, Title 16R codifies the following basic standards:

**Table 4:** Building and Construction Standards

| Chapter | Title |
|---|---|
| 16R.02 | Basic Building Standards |
| 16R.04 | Electrical Standards |
| 16R.06 | Mechanical Standards |
| 16R.08 | Plumbing Standards |
| 16R.10 | Sign Standards |
| 16R.22 | Grading Standards |
| 16R.37 | Floodplain Standards |
| 16R.42 | Fire Regulation Standards |

Thus, all projects in the City of Chico are required to adhere to the applicable standards of the UBC and the CBC. The project would be required to implement applicable BMPs based on the geologic, seismic fluvial and pedologic characteristics of the project site.

**E.1 – E.5:** The project site is not located in an Alquist-Priolo Earthquake Fault Zone. There would be no impact resulting from the rupture of known faults.

Through adherence to applicable design standards and BMPs, as required by the CBC and Municipal Code, the project would generate potential impacts stemming from seismic ground shaking, ground collapse and/or landslides that would be less than significant.

The project site is not in an area of highly erosive soils. Furthermore, the project would be required to adhere to the applicable standards of the City's Grading Ordinance, as identified in Chapter 16R.22 of the Municipal Code. The project would result in potential erosion impacts considered less than significant.

The project is not proposed in an area that is identified as having high landslide, liquefaction, lateral spread or subsidence risks. Furthermore, the design standards of the UBC and CBC, as adopted by the Municipal Code, set forth BMPs that address these potential soil-related hazards.

Most of the soil groups in the planning area are characterized as moderately to highly expansive. The Safety Element of the City's General Plan establishes Implementing Policy

S-I-5, which states "Continue requiring all new buildings in the City to be built under the seismic requirements of the Uniform Building Code." Thus, project approval is contingent on implementation of appropriate BMPs and adherence to applicable design standards.

The proposed project would result in bikeway improvements within the city limits. It would not result in the construction of dwellings, occupied structures or wastewater disposal facilities.

The proposed project would result in potential soil and geology-related impacts considered **less than significant.**

Mitigation: None Required

| **F. Hazards /Hazardous Materials**<br>Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | | | | X |
| 2. Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | | | | X |
| 3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | | | X | |
| 4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | | | | X |
| 5. For a project located within the airport land use plan, would the project result in a safety hazard for people residing or working in the Study Area? | | | | X |
| 6. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the Study Area? | | | | X |
| 7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | | | X | |
| 8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | | | X | |

DISCUSSION:

The project site is within Bidwell Park, adjacent to existing development and roadways. The proposed facilities would likely increase pedestrian and bicycle traffic within the project site.

Vehicular traffic and land uses in the project area would not be impacted by the proposed project.

The City's MEA does not list the project site as an *Identified Hazardous Waste Site.* Similarly, the California Department of Toxic Substances Control does not identify the site in its Hazardous Waste and Substances List. In California, the transport of hazardous waste is regulated by Division 20, Chapter 6.5, Articles 6 and 13 of the California Health and Safety Code and Title 22, Division 4.5, Chapter 13 of the California Code of Regulations. According to the City's BPTM, "nearly all" hazardous materials are transported by way of the State Highway system in Butte County. The roadway alignments adjacent to the project site are not identified as hazardous materials transportation corridors.

The Municipal Airport is approximately 3.75 miles north of the project site. A small, private airstrip is located approximately 2 miles west of the project site. The project site is not located in an airport land use plan.

The proposed project would result in bikeway and pedestrian improvements in lower Bidwell Park. The campus of Chico Junior High School is located within one-quarter mile of the project site. However, the proposed bikeway and pedestrian improvements would not result in facilities that would emit or handle hazardous materials or substances.

According to the MEA, there is a fire station within seven minutes of all incorporated locations in the Chico urban area. The project site lies within the service areas of two fire stations, which are demarcated by the channel of Big Chico Creek. Fire Station Two, which is located at East 5$^{th}$ Avenue and the Esplanade, serves the northern portion of the project site. Fire Station One, located at West 9$^{th}$ and Salem Streets, serves the southern portion of the site.

**F.1 – F.5:** The proposed improvements would not result in land-use changes relative to the routine transport, emissions or disposal of hazardous materials in the project area. The project site is not listed as a hazardous materials site. The project is not proposed near any airports; nor is the site located within the Airport Land Use Plan. The separation of vehicular and non-vehicular movements within the project area is intended to improve safety and flow conditions. The proposed project would not introduce people or structures to wildland fire hazards compared to pre-project conditions. Relative to hazards and hazardous materials, the proposed project would result in potential impacts considered **less than significant.**

Mitigation: None Required

| **G. Hydrology/ Water Quality**<br>Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Violate any water quality standards or waste discharge requirements? | | X | | |
| 2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted? | | | X | |
| 3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | | X | | |
| 4. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site? | | | X | |
| 5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | | X | | |
| 6. Otherwise substantially degrade water quality? | | | X | |
| 7. Place real property within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | | | X | |
| 8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | | | X | |
| 9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | | | X | |
| | | | | X |

10. Inundation by seiche, tsunami, or mudflow?

DISCUSSION:

The proposed project would construct facilities adjacent to the northern and southern banks of Big Chico Creek within Lower Bidwell Park. Phase A of the proposed facilities would include class I bike paths and a grade-separated underpass perpendicular to the Pine Street alignment. Phase B of the proposed project would include a clear-span pedestrian bridge and a new storm drain outfall along Big Chico Creek. The proposed project would be expected to result in a slight increase in the site's impervious area. Much of the project site is located within a flood hazard area, as delineated by FEMA.

**G.1 – G.7:** As described in the Biological Resources Section of this study, the project would be required to adhere to §404, §402 and §401 of the CWA as well as §1600 of the state Fish and Game Code. In addition, the project would be required to demonstrate compliance with applicable standard mitigation and monitoring programs of the BPTM and BMPs of the CBC, as adopted by the Chico Municipal Code. As a result of these requirements, the project would be required to implement a SWPPP, as part of the §402 permitting process. The proposed project's plans and specifications would also be reviewed for compliance with the City's SWAP per the Phase II, NPDES MS4 storm water program.

The proposed improvements associated with Phase B would include a clear-span of Big Chico Creek with supporting structures located outside of the 100-year floodplain. Improvements associated with Phase B would also include a new storm drain outfall at Big Chico Creek to ensure appropriate drainage. In addition to the mitigation measures set forth in this document, the project will implement appropriate Best Management Practices (BMP) of the Uniform Building Code, as identified in the following chapters of Title 16 of the Chico Municipal Code:

- 16.02: Building Regulations
- 16.22: Grading Regulations
- 16.34: Floodplain Regulations
- 16.66: Tree Preservation Regulations

The project is designed to avoid the removal of mature trees and minimize impacts to upland vegetation to the maximum extent practicable. The proposed alignment of the bridge was established after an evaluation of the sensitive biological resources within the project area. The project was designed, and will be implemented, in a manner that ensures avoidance of potential impacts to waters of the US, anadromous fisheries and riparian habitat. The proposed project would avoid the removal of trees and woody riparian vegetation to the maximum extent practicable.

Although the project would occur partially within a designated flood hazard area, it would not construct dwellings, buildings or other occupied structures. All facilities would be required to adhere to applicable federal and state design standards pertaining to construction within flood hazard areas. As a result, the project would not be permitted to result in flood-related hydrologic impacts.

There would be no new sources of groundwater extraction, nor would there be a substantial increases in impervious surfaces that would impede groundwater recharge.

According to the Draft EIR for the City of Chico Storm Drainage Master Plan (EIP, 2000), for Big Chico Creek, additional urbanization will not significantly increase instream flow. Ultimately, it is runoff from the upper watershed that controls the magnitude of the peak

flow. Flow from the urban area occurs considerably in advance of high flows from the upstream watershed. In addition, flows in excess of 1,500-cfs on Big Chico Creek, approximately 3 miles upstream of the project site at the Five-Mile Recreation Area, are diverted into Lindo Channel. This ensures Big Chico Creek has adequate capacity for storm water runoff. In general, project related storm water runoff associated with additional impervious surfaces draining to Big Chico Creek is anticipated to be minor because the pathways already exists and realignment and resurfacing will not add substantially more impervious surface. Also, the proposed underpass would be constructed under the Pine Street alignment, an existing impervious surface.

Final drainage plans will be reviewed by the Building and Development Services Department for conformance with adopted engineering standards. Prior to commencement of construction activities, the City shall ensure that the applicable standard practices have been implemented and included in all relevant construction contracts. Furthermore, the City shall ensure the acquisition of appropriate permits and project approvals from the relevant agencies having jurisdiction, relative to the site's hydrologic conditions.

The proposed project would involve improvements to an existing trail system, and no significant impacts to safety would occur beyond existing conditions. Additionally, risks associated with inundation by seiche, tsunami, or mudflow would not occur beyond existing conditions.

Through adherence to all applicable standards and regulations and implementation of Mitigation Measures C.1, C.2 and C.4 as set forth in this document, the proposed project would result in potential hydrology and water quality impacts that would be considered **less than significant with mitigation incorporated.**

Mitigation: Mitigation Measures C.1, C.2 and C.4

| **H. Land Use and Planning**<br>Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. General Plan or Specific Plan policies or zoning regulations? | | | | X |
| 2. Physically divide an established community? | | | | X |
| 3. Conflict with any applicable Resource Management or Resource Conservation Plan? | | | X | |
| 4. Result in substantial conflict with the established character, aesthetics or functioning of the surrounding community? | | | X | |
| 5. Be a part of a larger project involving a series of cumulative actions? | | | X | |
| 6. Result in displacement of people or business activity? | | | X | |
| 7. Conversion of viable prime agricultural land and/or land under agricultural contract to non-agricultural use, or substantial conflicts with existing agricultural operations? (Viable agricultural land is defined as land on Class I or Class II agricultural soils of 5 acres or greater, adjacent on no more than one side to existing urban development.) | | | | X |

DISCUSSION:

The proposed project would construct facilities along the northern and southern banks of Big Chico Creek within Lower Bidwell Park. The project site is designated *Parks* (P) in the General Plan and is located within the *Primary Open Space* (OS1) zoning district.

The following is taken from Chapter 19.50 of the Chico Municipal Code:

> *OS1 (Primary Open Space) District. The OS1 zoning district is applied to areas appropriate for permanent protection as open space because of environmental resources or potential hazards. These areas may include the Resource Conservation Areas of the General Plan and other sensitive habitats, oak and riparian woodlands, wetlands, creekways, riparian corridors, groundwater recharge areas, power transmission corridors, deer herd ranges, hillsides and viewshed management areas, and areas subject to flooding, that are either, publicly owned or have been committed to preservation by property owners in conjunction with development approval. The OS1 zoning district is consistent with the Open Space for Environmental Conservation/Safety, Open Space for Agriculture and Resource*

*Management, Parks (passive uses), and Creekside Greenways land use classifications of the General Plan.*

The proposed bikeway facilities and pedestrian crossing via clear-span are consistent with the standards of the site's zoning district and land use designation.

The proposed project would occur within Bidwell Park, which is identified as a Resource Conservation Area (RCA) in the City's General Plan Open Space Element. The designation as a RCA identifies the park as a sensitive and valuable habitat that requires protection and would be conserved in perpetuity, but allows for non-development oriented uses such as passive recreation. Through design considerations, including implementation of appropriate BMP (see Section C-Biological Resources and Section G- hydrology/water quality), impacts to sensitive natural resources will be avoided, reduced or mitigated to a level that is less than significant.

The proposed project would provide for a more consistent, direct and safe route for cyclists and pedestrians to travel throughout the City in an area where such a link has been lacking. This project is a component of the Chico Urban Bicycle Plan (CUBP) of 2002, which includes the goal of "providing safe and direct routes for cyclists between and through residential neighborhoods, commercial areas, schools, and other major destinations within the Chico Urban Area." This project will, in effect, create a more cohesive community where movement throughout the City is available to a broader range of the population. The Issues Section of the CUBP states: *The chief issue facing the planning and implementation of bikeways in the Chico Urban Area the physical barriers to bicycle travel.* The subsequent paragraph identifies Big Chico Creek as a major barrier, with the limited vehicular crossings resulting in frequent bicycle/vehicle conflicts.

The proposed project would also be funded by the Safe Routes to School program, which is intended to encourage and facilitate non-motorized commutes to and from school sites. The proposed facilities would provide a more direct access to Chico Junior High School that would be separated from the adjacent, heavily-traveled roadways.

Per City standards, the design of infrastructure, materials and colors shall be visually compatible with the surrounding area and provide an attractive environment. The proposed project will enhance the utility of existing bicycle and pedestrian routes, possibly reducing automobile traffic, thus, enhancing the functioning of the surrounding community.

This project is an identified component of the CUBP and will tie in with existing City bicycle paths. The CUBP was part of a comprehensive bicycle planning effort for the entire county and provides policy direction for the development of bicycle facilities in the Chico Urban Area. The implementation of the proposed project will be consistent with the Goals and Objectives of the CUBP and the General Plan.

The Community Design Element of the Chico General Plan sets forth a series of policies pertaining to creekside settings, Bidwell Park and pedestrian/cycling facilities against which the proposed project can be evaluated:

- The Continuity and Connection Section (§2.2) states: "establish linking elements" for "continuity and connection" by providing pedestrian and cycling facilities where links are currently lacking.
- CD-G-12: "Open up creeks to public view and access"
- CD-G-13: "Extend the amenity value of the creeks..."

- CD-G-14: "...diminish the barrier effect of the creeks."
- CD-G-14: "Bridges should be designed for bikes and pedestrians."
- CD-G-29: "Establish a more positive relationship to the creeks within Downtown."
- CD-G-30: "Improve the physical linkages to...Bidwell Park through creek crossings, trails, and other bicycle and pedestrian improvements."

The project would also be partially funded by the 305 Bikeway Fund, as identified in the City's Nexus Study. A grade-separated underpass, connecting the Annie's Glen exclave with the portion of Lower Bidwell Park east of Pine Street, is specifically mentioned in the Nexus Study.

The project site is within an existing park, which is surrounded by existing development in the city limits. There are no agricultural uses in the project area that would be potentially impacted by the proposed project.

The project would generate potential land use impacts that would be considered **less than significant.**

Mitigation: None Required

| **I. Noise** Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Exposure of residents in new hotels, motels, apartment houses, and dwellings (other than single-family dwellings) to interior noise levels (CNEL) higher than 45 dBA in any habitable room with windows closed? | | | | X |
| 2. Exposure of sensitive receptors (residential, parks, hospitals, schools) to exterior noise levels of 60 dBA L or higher? | | | X | |
| 3. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | | | X | |
| 4. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | | | X | |
| 5. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | | | X | |
| 6. For a project located within the airport land use plan, would the project expose people residing or working in the Study Area to excessive noise levels? | | | | X |
| 7. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the Study Area to excessive noise levels? | | | | X |

DISCUSSION:

Generally, state and federal noise guidelines address potential impacts stemming from projects that would result in noise-generating land-uses or place sensitive land-uses adjacent to existing sources of significant noise levels. These themes are manifested locally in the Chico General Plan, which establishes comparable noise-related guidelines. Additionally, the City's noise ordinance is set forth in Chapter 9.38 of the Chico Municipal Code. The ordinance prohibits noise sources on public properties from increasing noise levels by 15 decibels at 25 feet from the source.

The proposed project would construct bikeway and pedestrian facilities along the northern and southern banks of Big Chico Creek within Lower Bidwell Park. The project would not construct dwellings or structures that would be occupied by people.

The City's MEA identifies traffic as the primary source of noise throughout most of the planning area. The MEA identifies 2nd Street/Camellia Way/Memorial Way/Vallombrosa as a "key arterial" in the local transportation network. These roadways border the project site on the north. Similarly, Mangrove/Pine-Cypress Streets, which bisect the project site at the proposed underpass, are described as a key arterial in the MEA.

**I.1 – I.7:** The proposed project would not construct dwellings or occupied structures. Therefore, there would be no placement of residents or occupants of structures in the project area upon project completion. Interior noise level thresholds would not be applicable to the proposed project.

Surrounding land uses do include single family residences and parks, which are identified as sensitive receptors in the City's Best Practices Technical Manual. Construction equipment to be used may include a crane, backhoe, pavers, rollers, sealers and heavy trucks. The use of this equipment during construction is not expected to result in temporary or permanent excessive groundborne vibration or groundborne noise levels. All increases in noise levels in the project vicinity above levels existing without the project will be temporary. Project contractors will be required to comply with Chapter 9.38 of the Chico Municipal Code, which sets forth the City's standards for construction-generated noise and limits the hours of construction activities within the City. Additionally, the Chico Municipal Code, § 9.38.060 contains a categorical exemption for construction activities as follows:

*9.38.060 Categorical exemptions.*

*The following ... are exempt from the provisions of this chapter:*

*B. ...Notwithstanding any other provision of this chapter, between the hours of ten a.m. and six p.m. on Sundays and holidays, and seven a.m. and nine p.m. on other days, construction ... shall be subject to one of the following limits:*

*1. No individual device or piece of equipment shall produce a noise level exceeding eighty three (83) dBA at a distance of twenty-five (25) feet from the source.*

Activities involved in construction would be required to adhere to the City's noise standards, as identified in Chapter 9.38 of the Chico Municipal Code. As such, construction activities would generate maximum noise levels below the Chico Municipal Code thresholds.

Workers involved in the construction or maintenance of the proposed bikeway facilities may conduct project-related activities within the 60dB contours of the adjacent roadways. Additionally, subsequent users of the proposed bicycle paths could be exposed to temporary noise increases at or above 60 dB as they travel in the vicinity of adjacent roadways. Table 9.2-1 of the Chico General Plan identifies the feasibility of developments relative to noise levels. Outdoor land uses, such as playgrounds, parks and golf courses, are identified as "feasible" with an outdoor noise exposure up to 70dB and "probably feasible" with levels of 75-80dB. Thus, workers involved in the construction and maintenance of the proposed bicycle paths, and subsequent users of the bicycle paths, would be subjected to noise levels below the 70dB threshold identified in the General Plan.

As the project proposes to improve pedestrian and cycling conditions on a site that is already used in this capacity, it is not expected to result in significant noise increases over pre-project conditions.

The Municipal Airport is approximately 3.75 miles north of the project site. A small, private airstrip is located over 2 miles west of the project site. The project site is not located in an airport land use plan.

The proposed bikeway improvements are not expected to generate significant levels of noise in the project area. Similarly, the proposed project would not result in land-use changes that would expose individuals to existing, significant noise levels. Therefore, the proposed project would generate potential noise impacts that are **less than significant.**

Mitigation: None Required

| **J. Open Space/ Recreation** Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Affect lands preserved under an open space contract or easement? | | | X | |
| 2. Affect an existing or potential community recreation area? | | | X | |
| 3. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | | | X | |
| 4. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | | | X | |

DISCUSSION:

The project site is designated "Park" in the Land Use Diagram of the Chico General Plan. The site is located in the Primary Open Space (OS1) zoning district, as identified in Title 19 of the Chico Municipal Code. The OS1 District is established in Chapter 19.50, which states:

> *The OS1 zoning district is consistent with the Open Space for Environmental Conservation/Safety, Open Space for Agriculture and Resource Management, Parks (passive uses), and Creekside Greenways land use classifications of the General Plan.*

Table 4-12, as identified in Chapter 19.50 of the Municipal Code, identifies the allowed uses and permit requirements for the OS1 district:

**Table 5: Allowed Uses in the OS1 Zoning District**

| **Land Use** | **Permitting*** |
|---|---|
| Agriculture, Resource, Open Space | |
| Animal Keeping | UP |
| Creekside Greenways | P |
| Equestrian Facilities | UP |
| Nature Preserves | P |
| Recreation, Education and Public Assembly | |
| Interpretive Centers | UP |
| Parks and Playgrounds | UP |
| Parks, Greenbelts and Landscape Areas | P |
| Residential | |
| Caretaker Housing | UP |
| Transportation and Communication | |
| Pipelines and Utility Lines | UP |

* **P:** Permitted use; requires zoning clearance. **UP:** Permitted use; requires use permit or conditional use permit

There are no existing open space contracts or easements that would be compromised by the proposed project.

**J.1 – J.4:** The project site is within the Primary Open Space zoning district. However, as identified in the preceding table, the OS1 district does not preclude all improvements. The passive use of the site's pedestrian and bike path would remain unchanged upon project completion. The proposed project would not convert open space to another use.

The proposed project will take place within Bidwell Park, which functions as a recreation area for the community. Recreationists may experience temporary and minor aesthetic and noise impacts during construction of the proposed facilities. Once the project is completed, the area will function in a similar, yet more efficient manner when compared to pre-project conditions. The conditions for recreation will improve in terms of safety and access once the project is completed.

The installation of the proposed facilities will likely reduce the physical deterioration occurring along portions of the existing paths south of Big Chico Creek. In the absence of mitigation, the proposed project has the potential to affect biological resources. However, as discussed in Section C (Biological Resources) of this study, any potential impacts will be reduced to a less than significant level through avoidance and mitigation.

As a result, the proposed project would generate potential impacts on the City's open space, park and recreation facilities that are considered **less than significant**.

Mitigation: None Required

| **K. Population/ Housing**<br>Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | | | | X |
| 2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | | | | X |
| 3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | | | | X |
| 4. Conflict with General Plan population growth rates for its planning areas in conjunction with other recently approved development? | | | | X |

DISCUSSION:

The proposed project would occur within Lower Bidwell Park in the existing city limits. The proposed project would not construct dwellings or structures that would be occupied by people. Similarly, the proposed project would not result in the construction of infrastructure such as sanitary sewers or roadways. The project site is an existing park, devoid of residences or housing that would be impacted by the proposed improvements.

**K.1 – K.4:** The project would not induce population growth directly, as it proposes no residences. The proposed facilities are not infrastructure that could lead to the area's being able to support larger populations than current conditions. No housing units, people or businesses would be temporarily or permanently displaced by the proposed project. The project would not result in access to areas that were once undevelopable due to lack of infrastructure. The project is not considered growth inducing. With regard to housing and population, the proposed bicycle paths would have **no impact**.

Mitigation: None Required

| **L. Public Services** Will the project or its related activities have an effect upon or result in a need for altered governmental services in any of the following areas: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Fire protection? | | | X | |
| 2. Police protection? | | | X | |
| 3. Schools? | | | X | |
| 4. Parks and recreation facilities? (See Section J Open Space/Recreation) | | | X | |
| 5. Maintenance of public facilities, including roads, canals, etc.? | | | X | |
| 6. Other government services? | | | X | |

DISCUSSION:

The Chico Fire Department serves the project site and surrounding parcels. As described in Section F (Hazards/Hazardous Materials) of this study, the project site is located within the service areas of two fire stations.

The Chico Police Department serves the incorporated part of the Planning Area. The CPD and Park Department are responsible for enforcing State laws and City ordinances in the area of the project site. The site is located within the city limits, adjacent to existing roadways and developments.

The project site is located within the Chico Unified School District. As a Safe Routes to School project, the proposed improvements are intended to improve access area schools.

**L.1 – L.6:** The proposed project will not require additional fire fighting equipment nor any additional police or fire personnel. Once completed, the project will likely require routine maintenance in order to maintain the design details. As described in the Land Use and Planning section of this document, the proposed facilities are consistent with both the Chico Urban Area Bicycle Plan and the General Plan. Phase A of the proposed improvements are specifically identified in the 305 Bikeway Fund of the City's Nexus Study.

The proposed project would not generate additional demand on public services. Rather, the proposed improvements are in response to an existing demand for safe and separate, non-motorized facilities in the project area. The proposed project would not result in a population increase within the project area, nor would it result in altered land-uses over pre-project conditions.

Relative to public services, the proposed project would generate potential impacts that are considered **less than significant.**

Mitigation: None Required

| **M. Transportation/Circulation** Will the project or its related activities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Traffic volumes which exceed established Level of Service (LOS) standards on roadway segments or at intersections, or which do not meet applicable safety standards? Based on General Plan policies, significant impacts would generally result if traffic exceeded LOS C on residential streets, LOS D on arterial and collector streets/intersections, and (under specific circumstances) LOS E in built-out areas served by transit. | | | | X |
| 2. The absence of bicycleway facilities in the general locations identified in the General Plan, consistent with guidelines in the *Chico Urban Area Bicycle Plan*, or failure to meet applicable design requirements and safety standards? | | | | X |
| 3. Travel characteristics which are not consistent with standards established in the *Butte County Congestion Management Plan* (CMP), or other General Plan policies related to Transportation Systems Management (TSM)? | | | | X |
| 4. Substantial impact on existing or proposed public transit systems including rail and air traffic? | | | | X |
| 5. Effects on existing parking facilities or demand for new parking not provided for by the project? | | | | X |
| 6. Increase traffic hazards to motor vehicles, bicycles, pedestrian or other traffic? | | | | X |
| 7. A change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | | | | X |

Discussion:

The Pine/Cypress, Mangrove Avenue, Vallombrosa and Memorial Way alignments are identified in the Transportation Element of the Chico General Plan as arterials with daily volumes in excess of 18,000 vehicle trips. According to 2003 BCAG estimates, the segment of Mangrove Avenue from Vallombrosa to East 1st Avenue was operating at LOS D at peak hour volume. The segment is expected to operate at LOS E by 2025 at peak hour volume. The Vallombrosa segment between Memorial Way and Mangrove Avenue was operating at LOS C according to BCAG's 2003 data. The segment would be expected to operate at LOS D by 2025.

As a Safe Routes to Schools project, the proposed improvements would be required to meet applicable design standards, including the ADA and Caltrans Design Manual.

The proposed project would not construct dwellings that could generate vehicle trips. Similarly, the project would not result in a land-use, such as commercial development, that could attract vehicular traffic. The proposed bikeway improvements would facilitate movement through the project area for pedestrians and cyclists. The proposed improvements would not be expected to generate an increased demand for parking.

The proposed improvements are intended to provide separate bikeway and pedestrian facilities in an area that experiences high automobile traffic volumes. The improvements are intended to decrease conflicts between automobiles and pedestrians/cyclists that currently occur in the project area.

There are no airports within two miles of the project site. The project site is not located within any airport land-use plans.

**M.1 – M.7:** The proposed project would provide Class I bike paths, thereby improving the connectivity of bicycle routes and paths in the area, and is itself an alternative transportation facility. Additionally, by providing separate and improved facilities for pedestrians and bicyclists, there will be fewer disruptions in the flow of vehicular traffic in the project area. The installation of the proposed facilities is consistent with the County's Congestion Management Plan and the City's Transportation Systems Management policies. The proposed project is not expected to require additional services from the B-Line transit system. There would be no increased demand on parking facilities.

The project is intended to reduce existing hazards by providing facilities for bicyclists and pedestrians that are currently lacking. The bicycle paths would be constructed pursuant to relevant Safe Routes to School, Caltrans and City design standards. The proposed project would also be funded by the Bikeway Improvement Fee (Fund 305), which is intended to fund new Class I bicycle facilities to meet the increased demand generated by new developments. The proposed grade-separated undercrossing at Pine Street is identified as an uncompleted project in Appendix B of the City's Nexus Study.

The proposed project is consistent with the City's General Plan Transportation and Community Design Elements, the City's Capital Improvement Program and the Chico Urban Area Bicycle Plan. Allocation of Safe Routes to School funds would be indicative of compliance with ADA and Caltrans design standards. The project is intended to improve current transportation and circulation conditions by using funds identified for this purpose and in a manner that is consistent with City policies.

The project would not include any development (housing, commercial, etc.) that would create new vehicular trips. The proposed improvements are intended to improve transportation and traffic deficiencies currently experienced in the project area. Through construction of the proposed facilities, the traffic flow and volume conditions are expected to be improved in the project area. Similarly, the pedestrian and cycling conditions would be improved in an area of an existing physical barrier and frequent conflicts between vehicles and pedestrians/cyclists. The project would result in **no impact** to transportation/circulation factors.

Mitigation: None Required

| **N. Utilities** Will the project or its related activities have an effect upon or result in a need for new systems or substantial alterations to the following utilities: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 1. Water for domestic use and fire protection? | | | | X |
| 2. Natural gas, electricity, telephone, or other communications? | | | | X |
| 3. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | | | | X |
| 4. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | | | | X |
| 5. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | | | X | |
| 6. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | | | | X |
| 7. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | | | | X |
| 8. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | | | | X |
| 9. Comply with federal, state, and local statutes and regulations related to solid waste? | | | | X |

Discussion:

The proposed facilities would not result in an increased demand for potable water or water for fire protection. Similarly, the proposed project would not require connection to natural gas or communications infrastructure. The proposed bikeway facilities would require lighting to ensure the safety of future night-time path users and compliance with existing design standards. The project site is bisected by underground and overhead utilities in several places. Thus, the design requirements of the proposed project would not require the extension of existing utilities.

The proposed project will not result in the need for new water lines, natural gas, electricity, telephone or other communications in the vicinity. There will be no new waste water discharges associated with the implementation of this project. The proposed project will not result in the need for a capacity determination by the wastewater treatment provider as the

bicycle paths will not generate wastewater. The proposed project does not include uses which would require new water or solid waste services.

**N.1 – N.4, N.6 – N.9:** The proposed bikeway facilities would not result in an increased demand on these utilities. As a result, there would be **no impact**.

**N.5:** The project would result in a slight decrease in the area's storm water permeability through the introduction of impermeable asphalt facilities. Additionally, the Phase B of the proposed project would result in the construction of a new outfall structure which will convey stormwater from the undercrossing into Big Chico Creek.

As described in the Biological Resources, Geology/Soils and Hydrology/Water Quality sections, potential impacts to water quality and quantity would be avoided by adhering to pertinent local, state and federal guidelines and through the implementation of appropriate BMPs. The City will adhere to the City's storm drainage master plan and grading standards identified in Chico Municipal Code section 16R.22. The City's Storm Water Management Program (SWAP) implements storm water requirements of the Federal Clean Water Act. The SWAP provides an overall storm water management program, which identifies appropriate actions and Best Management Practices (BMP). The drainage plan requires acquisition of relevant permits, implementation of appropriate BMPs and development of a SWPPP. The proposed project would not result in increased demand on existing stormwater facilities. The project would adhere to the mitigation measures, standards and conditions of approval set forth in this study. As a result, the project would be expected to generate potential impacts that are considered **less than significant.**

Mitigation: None Required

## V. MANDATORY FINDINGS OF SIGNIFICANCE

| | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| A. The project has the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. | | X | | |
| B. The project has possible environmental effects which are individually limited but cumulatively considerable. (Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current and probable future projects. | | | X | |
| C. The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly. | | | X | |

Discussion:

**V.A:** Construction activities could generate fugitive dust and ozone precursors, thereby contributing incrementally to air quality degradation. The City's Standard Mitigation and Monitoring Program and site-specific BMPs, which are standard conditions of project approval, would reduce potential air quality impacts to levels considered less-than-significant.

Project-related activities have the potential to impact biological resources, including riparian habitat, waters of the state and waters of the US, valley elderberry longhorn beetle, listed anadromous fish species, raptors and migratory birds. Mitigation Measures C.1 – C.5, as set forth in the Biological Resources section, standard conditions of approval required by City policy and acquisition of the appropriate permits/approvals from the regulatory agencies, as identified in this study, would reduce potentially significant impacts to biological resources and habitats to a level that is less than significant with mitigation incorporated.

Adherence to the City's Standard Mitigation and Monitoring Program for cultural resources would reduce potential impacts to presently unidentified cultural resources or human remains to levels considered less than significant.

Through adherence to all applicable standards and regulations and implementation of Mitigation Measures C.1, C.2 and C.4 as set forth in this document, the proposed project would result in potential hydrology and water quality impacts that would be considered less than significant with mitigation incorporated.

As such, the proposed bikeway and pedestrian facilities would result in impacts considered **less than significant with mitigation incorporated**.

**V.B, V.C:** By adhering to the requirements of the mitigation measures in this document and the permitting processes of regulatory agencies (as described in the City's Best Practices Technical Manual) there will be less than significant cumulative impacts. The proposed bicycle paths are consistent with the City's General Plan, Chico Municipal Code, Capital Improvement Program and Chico Urban Area Bicycle Plan and the Safe Routes to School programs.

The bikeway facilities would be constructed according to City and Caltrans design standards, which are intended to ensure safe facilities. Based on the preceding environmental analysis, through incorporation of the identified mitigation measures and compliance with local, state and federal regulations, as noted in this document, the project will not result in potentially significant direct or indirect adverse effects on human beings.

Thus, the proposed project would result in potential cumulative effects and potential effects on humans that are considered **less than significant.**

## VI. REFERENCES

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**ATTACHMENT A**

ARCHAEOLOGICAL EVALUATION, CULTURAL RESOURCE ASSOCIATES, 2008

# AN ARCHAEOLOGICAL EVALUATION OF ANNIE'S GLEN PROJECT BUTTE COUNTY, CHICO, CALIFORNIA.

Negative Report ¼ Mile Linear Segment Survey
USGS Chico Quadrangle (T22 North, R1 East)
With an extension to South Park Drive and Woodland Avenue

I.C. File # W07-141

GCI # 2007-085

By

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For
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117 Meyers Street
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January 2008

**SUMMARY**
The project is located on the USGS Chico Quadrangle (T22 North, R1 East,) proposes to upgrade the existing bike path and to build a pedestrian/bike bridge west toward Vallombrosa and an underpass at Cypress/Pine Streets with an extension (A Line) to South Park Drive and then south to Woodland Avenue.

No prehistoric or historic resources were located during the archival record search or the intensive pedestrian field survey. However, CA-BUT-459, a prehistoric village site, is less than a ¼ mile from the current project area. For this reason the current project area is considered potentially **sensitive** for archaeological resources

**RECOMMENDATIONS**
Based on the results of the records search and the limited ground visibility in the study area, CRA recommends that an archaeological monitor be present during initial ground disturbance. Should cultural resources be encountered during construction grading, trenching, and/or excavation, work in the project area must be halted and a qualified archaeologist should evaluate the resource(s) encountered. See CEQA Checklist V (Cultural Resource): Items (a), (b), and (c): below. If prehistoric resources are encountered during ground moving activities, then the Mechoopda Tribe should be contacted so that a Native American Monitor can also be placed on site. Although unlikely, the discovery of human remains is always a possibility; State of California Health and Safety Code Section 7050.5 covers these findings. This code section states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. See CEQA Checklist Section V (Cultural Resource): Item (d), below.

**CEQA Checklist Section V (Cultural Resource): Items (a), (b), and (c):**

Pursuant to Federal (36 CFR 800.13) If project requires §106 consultation) and State (PRC §21083.2) regulations as well as consistency with CEQA Guidelines §16064.5(f) a note shall be placed on all construction plans which informs the construction contractor that if any potential archaeological, cultural or paleontological resources are encountered during construction, all work shall cease within 3 meters (10 feet) of exposure of any unanticipated significant cultural materials of the prehistoric or historic periods until a qualified archaeologist can evaluate the find. Examples of such cultural materials would include ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; fragments of non-fossil shell; concentrations of bottles and/or ceramics; or structural remains. The archaeologist will assess the significance of the find and

prepare appropriate mitigation measures for review by the Building and Development Services Director. All mitigation measures determined by the Building and Development Services Director to be appropriate for this project shall be implemented pursuant to the terms of the archaeologist's report.

**CEQA Checklist Section V (Cultural Resource): Item (d):**
Pursuant to State PRC §7050.5, if human remains, including human bone are unearthed during construction, the construction contractor must cease work within 100-feet or any nearby area reasonably suspected to overlie adjacent human remains until: the county coroner has been informed and has determined that no investigation of the cause of death is required; and if the remains are of Native American origin: the descendants of the deceased Native American have made a recommendation to the land owner or the person responsible for the excavation work regarding the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC §5097.98 and §5097.99 and the Native American Graves Protection and Repatriation Act (NAGPRA); or the NAHC was unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 24 hours after being notified by the NAHC.

**INTRODUCTION**

This report documents the findings of the archival record search and the archaeological field survey of the Annie's Glen bike path development, Butte County, California.

**PROPOSED PROJECT**

The project is located on the USGS Chico Quadrangle (T22 North, R1 East,) proposes to upgrade the existing bike path and to build a pedestrian/bike bridge west toward Vallombrosa and an underpass at Cypress/Pine Streets with an extension (A Line) to South Park Drive and then south to Woodland Avenue. See Figure 1. APE and Project Location Map shown below.

**LAWS, ORDINANCES, REGULATIONS, AND STANDARDS**

This cultural resources analysis is designed to provide compliance with the statutes and regulations of the federal and state governments.

The Annie's Glen project is subject to the requirements of the California Environmental Quality Act (CEQA), as amended. CEQA requires consideration of the potential effects of proposed projects on cultural and archaeological resources (State of California Office of Planning and Research, 1992). Guidance for compliance with CEQA is found in various Public Resource Code sections. The California Register of Historical Resources, modeled after the National Register of Historic Places, provides a mechanism and criteria for determining the significance of cultural resources. Information for CEQA compliance can be gathered during compliance with Section 106 of the National Historic Preservation Act, described below.

If the Annie's Glen project is partially funded by federal monies, it is then subject to compliance with Section 106 of the National Historic Preservation Act (NHPA), as implemented through 36 Code of Federal Regulations (CFR) 800. Section 106 is the most detailed and explicitly defined authority applicable to the Annie's Glen project with regard to cultural resources.

The National Historic Preservation Act of 1966, Section 106 (16 U.S. Code 470), requires federal agencies to consider the effects of their actions, including approval, permitting, and technical assistance on properties that are eligible for, or included in, the NRHP. Historical sites, objects, districts, historic structures, and cultural landscapes that are eligible for listing on the NRHP are referred to as "historic properties." Section 106 also requires the federal agency to afford the Advisory Council on Historic Preservation an opportunity to comment on the agency's efforts to consider historic properties. The implementing regulations for Section 106, found at 36 CFR 800, describe a process of inventory, evaluation, and consultation that satisfies the federal agency's requirements. The criteria used for determining the eligibility of cultural resources are found at 36 CFR 60.4.

**STANDARDS AND GUIDLINES**

The federal and the state governments offer guidance for the conduct of historic preservation activities. The Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (1983) establishes standards for the gathering and treatment of data related to cultural resources. Guidance is also offered for compliance with Section 106 through the Advisory Council on Historic

Preservation, and Section 110 Guidelines are available through the office of the Secretary of the Interior.

**ARCHAEOLOGICAL STAFF QUALIFICATION**

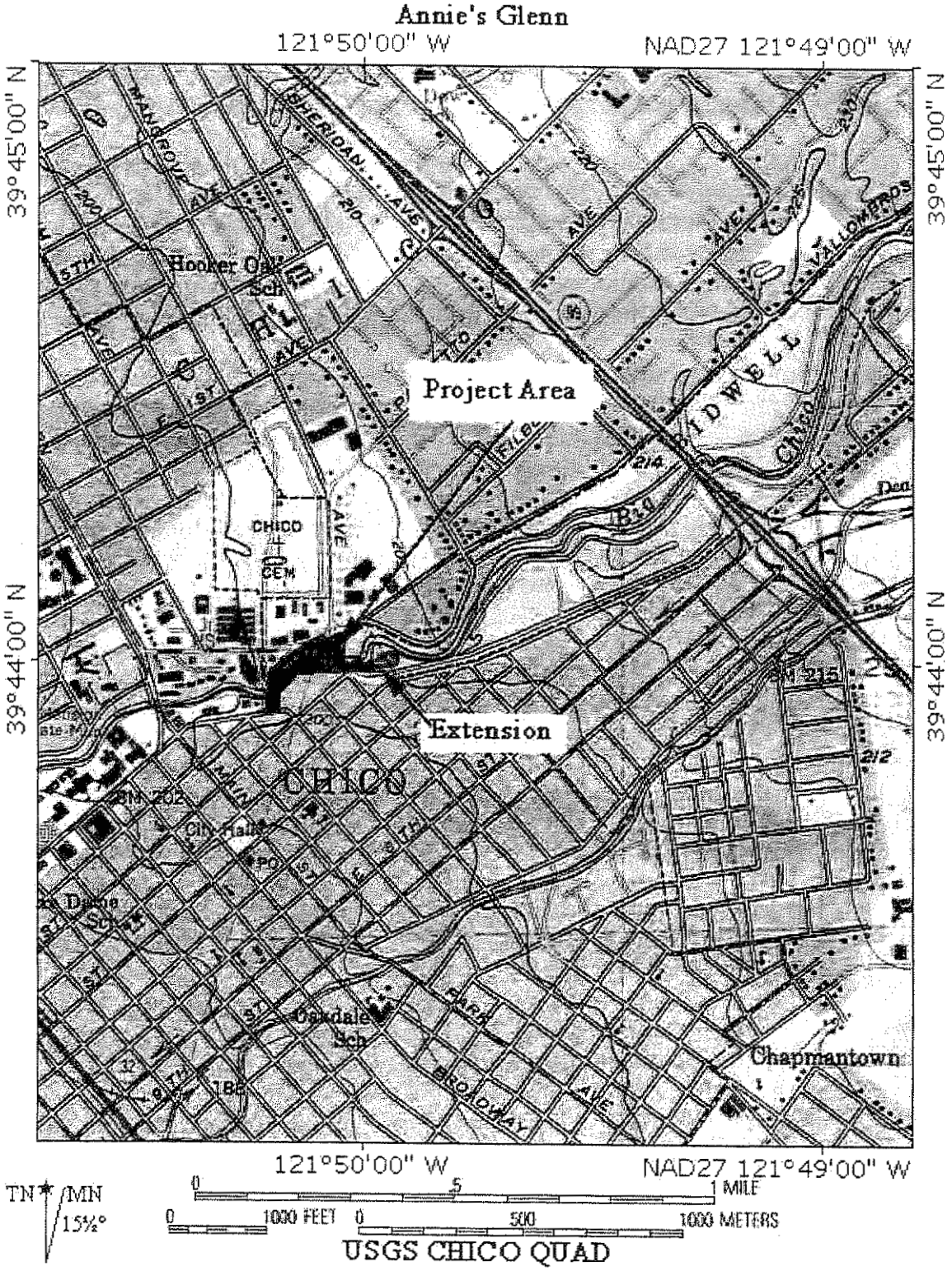
Lori Harrington, principle investigator and project staff archaeologist, holds a Masters of Arts degree in Anthropology. In addition, she meets all requirements of the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Restoration*, is certified by the Register of Professional Archaeologists, and has more than 15 years experience in California archaeology.

**NATIVE AMERICAN CONSULTATION**

To secure information regarding Native American knowledge of and concerns about resources that could be affected by the project, the steps described in the following sections have been taken.

On 10 October 2007 a letter was sent to the Native American Heritage Commission requesting that the "Sacred Lands Inventory" be consulted for burials, cemeteries, sacred sites, and traditional cultural properties on the proposed project area. A list of interested Native American parties was requested. These parties were informed, via letter, about the project so they could contribute information about sites or locations of specific concern to them. The interested parties were given 30 days to respond to the letter. After the 30-day waiting period an attempt was made, by telephone, to reach all parties who had not responded. All contacted parties stated that they had no information to contribute and additional consultation would not be needed. See Appendix B for specific details.

**Figure 1: APE and Project Location Map**



## AREA BACKGROUND

### Prehistoric Overview

Little was known of the archaeology of the Sacramento Valley until the 1950s, when intensive fieldwork was conducted in association with federal and state water projects. As a result of this fieldwork, a sequence of cultural patterns was defined for the area.

Occupation in the Sacramento Valley during the Prehistoric Period is estimated to have occurred as early as 12,000 years ago, but only a few archaeological sites have been identified that predate 5,000 years ago. It is possible that Holocene alluvial deposits buried many prehistoric sites in this area. For example, Moratto (1984:214) has estimated that as much as 10 meters of sediment accumulated along the lower stretch of the Sacramento River drainage system during the last 5,000–6,000 years.

Prehistoric material culture in central California (including the Sacramento Valley) subsequent to the Paleoindian Period has been categorized according to "horizons" or "patterns" that define broad technological, economic, social, and ideological elements over long periods of time and large areas. The taxonomic system historically used for central California is a tripartite classification scheme with Early, Middle, and Late Horizons. This Central California Taxonomic System (CCTS) was the result of efforts of a number of researchers (e.g., Beardsley 1954; Heizer 1949) and was developed further after the advent of radiocarbon dating (Fredrickson 1973, 1974; Heizer 1958; Ragir 1972).

Today, a series of generalized periods associated with regionally based "patterns" typically are used as part of the CCTS for the Sacramento Delta area, San Francisco Bay area, and North Coast ranges (Bennyhoff and Fredrickson 1969; Fredrickson 1973, 1974). Smaller units of patterns are referred to as "aspects" and "phases," which emphasize more local features. Revisions of the widely accepted CCTS (Bennyhoff 1994; Fredrickson 1994a, b) are found in a recent volume edited by Hughes (1994).

Fredrickson (1973, 1974) defined several regionally based patterns, three of which are specific to Central Valley prehistory and the current project area. Referred to as the Windmiller Pattern, Berkeley Pattern, and Augustine Pattern, each represents a general pattern of resource exploitation, as identified between 2500 B.C. and the beginning of Euro-American contact in the early 1800s. The Windmiller Pattern was first identified at the Windmiller site (CA-SAC-107) near the Cosumnes River in Sacramento County; the Berkeley Pattern initially identified in the San Francisco Bay area; and the Augustine Pattern at the Augustine site (CA-SAC-127) in the Sacramento–San Joaquin Delta. These patterns are present within the following periods: Middle Archaic Period/Windmiller Pattern (formerly Early Horizon), Upper Archaic Period/Berkeley Pattern (formerly Middle Horizon), and Emergent Period/Augustine Pattern (formerly Late Horizon).

### Windmiller Pattern (2500–500 B.C.)

Clearly documented evidence for human occupation in the general area is found at sites characteristic of the Windmiller Pattern during the Middle Archaic Period. These sites date to as early as 4,500 years ago and as late as 2,500 years ago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(2500–500 B.C.). Such sites often contain manos and metates (grinding stones), as well as many mortar fragments, indicating that acorns and/or various seeds formed an important part of the diet (Moratto 1984:201).

In addition to plant foods, the subsistence system included many other food resources, such as deer, elk, pronghorn, rabbits, and waterfowl. Numerous faunal remains have been documented at Windmiller Pattern sites, along with large quantities of projectile points. Also, the presence of angling hooks and baked clay artifacts possibly used as net or line sinkers, along with the remains of sturgeon, salmon, and smaller fishes, indicate that fishing was an additional source of food (Fredrickson 1973; Heizer 1949; Ragir 1972). Items made of baked clay included net sinkers, pipes, and discoids, as well as cooking "stones." Ground and polished charmstones, impressions of twined basketry, shell beads, and bone tools, also have been found at Windmiller Pattern sites. Some items, such as shell beads, obsidian tools, and quartz crystals, were obtained by trade.

The archaeological record during the Windmiller period indicates people practiced a mixed procurement strategy of both game and wild plants, with the addition of acorns and/or seeds. The mixed exploitation of a wide range of natural resources ties into a seasonal foraging strategy. Populations likely occupied the lower elevations of the Sacramento Valley in the winter months and shifted to higher elevations during the summer (Moratto 1984:206). Mortuary practices included burials, accompanied by grave goods, in cemeteries that were separate from the habitation sites.

**Berkeley Pattern (500 B.C.–A.D. 500)**

Over a 1,000-year period, the Windmiller Pattern began to shift to the more specialized adaptive Berkeley Pattern during the Upper Archaic Period. A shift to a greater reliance on acorns as a dietary staple is interpreted during the Berkeley Pattern from the increase in mortars and pestles, along with a decrease in manos and metates. Mortars and pestles are better suited to crushing and grinding acorns, while manos and metates were used primarily for grinding wild grass grains and seeds (Moratto 1984:209–210).

As demonstrated by the artifact assemblage, hunting remained an important aspect of food procurement during the Berkeley Pattern (Fredrickson 1973:125–126). The archaeological record, which consists of numerous large shell midden/mounds, also demonstrates that the majority of Berkeley Pattern sites located near, or in the vicinity of, water (both fresh and salt) made intensive use of aquatic resources. The artifact assemblage also includes shell beads and ornaments, as well as numerous types of bone tools. Interment continues to dominate mortuary practices, but a few cremations are also found at Berkeley Pattern sites.

Artifact assemblages and radiocarbon dating of sites from this period suggest this subsistence pattern may have developed in the San Francisco Bay region and later spread to surrounding coastal locales and into central California. Moratto (1984:207–211) suggests that pattern is related to the expansion of Eastern Miwok populations from the San Francisco Bay area to the Sacramento Valley and Sierra foothills.


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**Augustine Pattern (A.D. 500–Historic Contact)**

The Augustine Pattern is evidenced by a number of changes in subsistence, foraging, and land use patterns that begin to reflect the use pattern known from historic period Native American groups in the area. A substantial increase in the intensity of subsistence exploitation, including fishing, hunting, and gathering (particularly the acorn), evidenced in the archaeological record correlates directly with population growth (Moratto 1984:211–214).

Tools and cooking implements included shaped mortars and pestles, hopper mortars, bone awls used for producing coiled baskets, and the bow and arrow. Pottery vessels, known as Cosumnes Brownware, are found in some parts of the Central Valley, and most likely developed during this period from the prior baked clay industry.

During this period, an increase in sedentism led to the development of social stratification, accompanied by a shift to elaborate ceremonial and social organization. Exchange networks, with the use of clamshell disk beads as currency, also developed during the Augustine Pattern. Mortuary practices during this period included flexed burials and pre-interment burning of offerings in a grave pit, as well as cremation of high-status individuals (Fredrickson 1973:127–129; Moratto 1984:211). Additional items of material culture included flanged tubular pipes, harpoons, and small Gunther barbed series projectile points. The Augustine Pattern may represent the southward expansion of Wintu populations (Moratto 1984:211–214).

**Ethnographic Overview**

The Annie's Glen project is located within an area that was historically occupied by the Native American social group called the Konkow (also known as Northwestern Maidu) (Kroeber 1925; Riddell 1978). Konkow is a branch of the Maiduan language family and constitutes one of the family's four major languages (along with Maidu proper, Konkow, and Nisenan [Southern Maidu]) (Mithun 2001:455) spoken by peoples of the middle Sacramento River Valley and adjacent Sierra Nevada Mountain foothills. The Maiduan language family is part of the Penutian linguistic stock that includes the majority of central Californian tribes (Kroeber 1925:347; Shipley 1978:83).

The Konkow inhabited the lower reaches of the Feather River area west of Richbar, extending southwestward past Honcut Creek and westward nearly to the Sutter Buttes, and including a portion of the Sacramento River drainage extending from about Butte City in the south to Vina in the north. Konkow lands continued east into the Sierra Nevada Mountain foothills between Chico and Oroville and the two river drainages (Riddell 1978:370–372). The Konkow shared their southern border with the Patwin, their southeastern border with the Valley Nisenan, and the northeastern border with the Maidu. Their northern neighbor was the Yana, and their northwestern neighbor was the Nomlaki. Konkow villages along the project segment include *Micupda*, *'éskeni*, and *Utapi* south of Chico; *Wabusi*, *Botok*, and *Taichida* just north of the Yuba River; and *Hincho* at the Yuba River (Riddell 1978:370–371).

Political organization of the Konkow was limited to a settlement pattern of village communities (Kroeber 1925:397–398; Riddell 1978:373). A central village housed a circular, semisubterranean ceremonial assembly structure and the home of the


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community spokesman. A community was composed of three to five villages, and the villages apparently were self-sufficient. Kroeber (1925:397) estimated village population at less than 200. Houses were either semisubterranean or conical bark structures.

The locations of Konkow settlements depended primarily on elevation, exposure, and proximity to water and other natural resources (Dixon 1905:175; Riddell 1978:371, 373). Permanent villages were usually on ridges above major watercourses. Ridge-crest flats or midslope terraces were generally the preferred village settings. The villages were inhabited mainly in the winter months, since spring, summer, and fall were the prime seasons for hunting and gathering resources in nearby foothills and higher elevations. The Konkow erected brush shelters close to their hunting and gathering sites (Riddell 1978:376).

The fundamental economy of the Konkow was one of subsistence hunting, fishing, and collecting plant foods in an area where abundant natural resources varied seasonally (Riddell 1978:373-374). Acorns were a dietary staple and were collected from oak groves at lower elevations. Oak varieties in the area included black oak (*Quercus kelloggii*), canyon or golden oak (*Q. chrysolepis*), and interior live oak (*Q. wislizenii*). The Konkow gathered nuts from digger pine (*Pinus sabiniana*) and ate them raw or ground into flour. Other vegetal resources included hazelnuts, buckeye nuts, wild nutmeg, grass seeds, berries, and underground bulbs and roots, including camas, cattail, and tule roots. The Konkow also ate salmon, eel, birds, waterfowl, grasshoppers, other insects, and large and small mammals. Deer and elk were among the large animals hunted.

To gather and collect food resources, the Konkow used a wide variety of tools, implements, and enclosures. These included (1) bows and arrows, traps, nets, slings, snares, clubs, and blinds for hunting land mammals and birds, and (2) salmon gigs, traps, and nets for catching fish. During communal hunts, deer were driven over cliffs or shot by concealed hunters. Woven tools—seed beaters, burden baskets, and carrying nets—and sharpened digging sticks were used to collect plant resources. Unlike the neighboring Maidu and Nisenan, Konkow did not use watercraft since the swift river waters within their territory were not navigable. They traded with neighboring groups for salmon and pine nuts (Riddell 1978:373-380).

The Konkow processed food resources with a variety of tools, including portable stone mortars, bedrock mortars and pestles, anvils, woven strainers and winnowers, leaching baskets and bowls, storage baskets, woven parching trays, wooden mortars, and knives. Baskets were made using a simple twining technique. The Konkow also traded with neighboring groups for various resources and implements, including shell beads, obsidian, and abalone shell used for ornaments.

Religious beliefs included practice of the Kuksu cult, primarily a ceremonial and dance organization. The leader of the cult was a powerful shaman. Log drums, rattles, flutes, and whistles accompanied the ceremonial dances. Mortuary practices included flexed burials, generally facing west, that were accompanied by grave offerings. The goods and property of the deceased were burned during an annual mourning ceremony (Riddell 1978:381-384).

Before construction of the extensive modern levee and dam system that turned the Sacramento Valley into an inland sea, the Sutter Buttes, approximately three miles west of the Chico to Wheatland segment, was an island refuge for indigenous


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Californians (California State Parks 2005). The Maidu Indians (including the Northwest Maidu, or Konkow) called the Buttes *Histum Yani*, which translates as "Middle Mountains of the Valley" or "Spirit Mountain." An important part of their religious tenets, the Maidu believed that the spirits of their dead rested in the Buttes before the journey to the afterlife.

Prior to the discovery of gold in 1848 at Sutter's Mill near Coloma on the American River, Konkow lifeways were little affected by exploration into their territory by Spanish explorers and American trappers. The great epidemic that swept the Sacramento Valley in 1833, however, followed by thousands of gold seekers, combined to decimate the Konkow. The results were devastating and included the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation. Local survivors were hired by the miners and later worked as laborers on Euro-American ranches and farms.

In 1850, the Konkow signed a treaty that gave them only a portion of their traditional lands. Some of the people then were moved to a reservation at Nome Lackee in 1855. In 1863, the Konkow were marched forcibly to the Round Valley Reservation, with few provisions or water over the two-week, hot, dry trek. By 1910, a reduced Konkow population was estimated at 450 individuals, down from more than 3,000 prior to contact (Kroeber 1925; Riddell 1978:385-386). Today, there more than 2,500 Maiduan people, including the Maidu of Plumas and Lassen Counties, the Konkow of Butte and Yuba Counties, and the Nisenan of El Dorado, Nevada, Placer, Sacramento, and Yuba Counties; these people live primarily on the rancherias of Auburn, Berry Creek, Chico, Enterprise, Greenville, Mooretown, and Susanville, as well as on the Round Valley Reservation (White 2005). Berry Creek, Chico, Enterprise, and Mooretown Rancherias, with a combined population of 2,080, are within Konkow traditional territory (CIAP 2003:64, 92, 119).

**Historic Overview**

Post-contact history for the state of California generally is divided into three specific periods: the Spanish Period (1769-1822), the Mexican Period (1822-1848), and the American Period (1848-present). Although there were brief visits by Spanish, Russian, and British explorers from 1529-1769, the beginning of Spanish settlement in California occurred in 1769 with a settlement at San Diego and the first (Mission San Diego de Alcala) of 21 missions established from 1769-1823. After the 1822 revolution by Mexico against the Spanish crown, the Mexican Period is marked by an extensive era of land grants, most of which were in the interior of the state, and by exploration by American fur trappers west of the Sierra Nevada Mountains.

With the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, California became a territory of the United States. The discovery of gold in 1848 at Sutter's Mill near Sacramento and the resulting Gold Rush era influenced the history of the state and the nation. The rush of tens of thousands of people to the gold fields also had a devastating impact on the lives of indigenous Californians, with the introduction and concentration of diseases, the loss of land and territory, including traditional hunting and gathering locales, violence, malnutrition, and starvation. Thousands of settlers and immigrants continued to

pour into the state, particularly after the completion of the transcontinental railroad in 1869.
With continued growth, California continues to be a national leader in agriculture and poultry production, ranching (cattle and sheep), aerospace and communications industries, as well as the film and entertainment business. The wealth of California's natural resources (e.g., lumber, petroleum deposits, minerals, fish) also continues to contribute to its growth and development.

**Butte County**
The earliest accounts by non-native people in Butte County are from employees of the Hudson's Bay Company, who hunted and trapped the area in the 1830s (Garth 1978:243) Butte County is one of California's original 27 counties, founded in February 1850. The county seat settled at Oroville in 1856, after initially being established at Hamilton and then Bidwell's Bar. The county, like many others in this area, was the site of extensive gold mining activity, especially along the Feather River in the southeastern part of the county (Marschner 2001:210). The town of Chico is the site of extensive agricultural farmlands and the location of California State University at Chico.

**Chico**
John Bidwell was one of the most prominent Californians in the state's history. His accomplishments are many and varied, including roles such as leader of the first overland company of Americans to California, agriculturist and horticulturist, Congressman, Senator, rancher, Civil War General, discoverer of gold (at Bidwell's Bar), and philanthropist. He purchased *Rancho del Arroyo Chico* in 1849. In 1860, he founded the town of Chico on his rancho on the site of a Maidu village (Haslam et al. 1993:111; Hoover et al. 2002:37). He donated land for schools, churches, and a large parcel for the Northern Branch State Normal School, which was founded in 1887. The Normal School became the California State University at Chico. Bidwell's large brick mansion, built in 1868, is now a California State Park. Bidwell Park, on land donated by Mrs. Bidwell after her husband's death, is the second-largest city park in California. The Indian Tribal Cemetery, also on land donated by Mrs. Bidwell, still can be seen on West Sacramento Avenue, near the site of the former Native American village of Mechoopda.

**Annie's Glen**
Annie's Glen/Camellia Way is located towards the western boundary of Bidwell Lower Park, between Lost Park (the westernmost portion of Bidwell Park) and the One-Mile Recreation Area. The north side of Big Chico Creek is referred to as Camellia Way and includes a creek side picnic area. The south side is referred to as Annie's Glen and contains paved and unpaved multipurpose trails traversing the riparian woodland along the creek.

## METHODS AND RESEARCH

### Previous Research

An archival record search of the project area was conducted at the Northeast Information Center, California State University Chico. The records search was conducted on October 12, 2007, to determine the extent, if any, to which the current project area had been previously surveyed and the number and type of cultural resources in the area and within the project limits. The archival search consisted of an archaeological and historical records and literature review. This records search provided background on the types of sites expected in the region.

The data reviewed included the official records and maps for archaeological sites and surveys in Yuba County. Also reviewed were the following historic resources:

- National Register of Historic Places – Listed Properties
- California Register of Historical Resources
- California Inventory of Historical Resources
- California State Historical Landmarks
- California Points of Historical Interest
- Directory of Properties in the Historical Resources Inventory (Office of Historic Preservation)
- Historic Spots in California 1990
- California Place Names 1975
- City of Chico web site (www.chico.ca.us)

### Findings

The literature search indicated that the project area (Camellia Way) had been partially surveyed in 1996 by Coyote & Fox (8164). Vaughn (Coyote & Fox) stated that no cultural resources were noted during the field survey. However, CA-BUT-459, a Mechoopda Village site with a midden component, is within a ¼ mile of the proposed project area. During the 1996 survey Vaughn located CA-BUT-459 and compared the soils along the creeks of the project area with the soil deposits at CA-BUT-459 and determined that the probably does not extend into the APE for the then proposed bridge widening project of Camellia Way Bridge at Vallambrosa Avenue.

Two additional field surveys were conducted along Big Chico Creek to the northeast of the current project area. Report 8185, by Jensen and Associates, was negative for resources. Report 1188, was positive for prehistoric resources which were located more than a mile away from the current study area.

### FIELD METHODS

The current field survey was conducted on October 14, 2007, and the extension on January 20, 2008 by Lori Harrington M.A. RPA, in compliance with the California Environmental Quality Act *(CEQA; Pub. Res. Code §21000 et seq.)*, and the National

Historic Preservation Act of 1966, Section 106 (16 U.S. Code 470). The purposes of the field survey were:

(1) to identify and record all historic and prehistoric archaeological resources in the project boundary
(2) To evaluate the significance of any discovered archaeological resources, and provide preliminary mitigatory measures, if necessary

The entire parcel was intensively surveyed with transects spaced no greater than 10-15 meters.

The ground, was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, baked clay items, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., metal, glass, ceramics).
Photographs of the current project area, potential features, and items of interest were taken with a digital camera. Locational data was recorded with a handheld Garmin GPS eTrex Venture global positioning system (GPS) unit. In addition, the surrounding neighborhood was reviewed by car to check on the general topography.

**FINDINGS**

The project acreage (~100%) is composed of fairly flat land, characterized by a narrow, predominantly oak/sycamore dominated riparian corridor along Big Chico Creek that borders the northwestern side of Annie's Glen. Paved and unpaved multipurpose trails transverse the riparian woodland along Big Chico Creek. The area on the north side of Big Chico Creek referred to as Camellia Way was also included in the field survey and incorporates a creek side picnic area. There are no structures in the current project area.
Ground surface visibility within the property varied at the time of the survey. In general, visibility was low, ranging from 0-40 percent throughout the project area. Subsurface visibility was reduced due to grasses/clover that formed a dense vegetation cover. The associated unpaved multipurpose trails provided 100 percent visibility and were closely examined. In addition, the area on both the north and south sides of Big Chico Creek was given extra attention. No indication of midden was found.

**Photo 1: Overview of Project Area, looking NE**

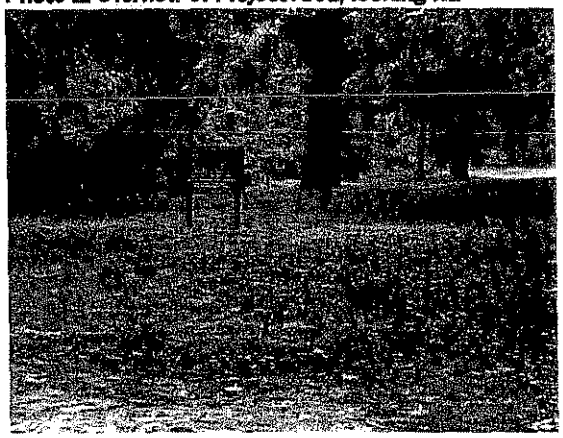

**Photo 2: Overview of Project Area, looking N**

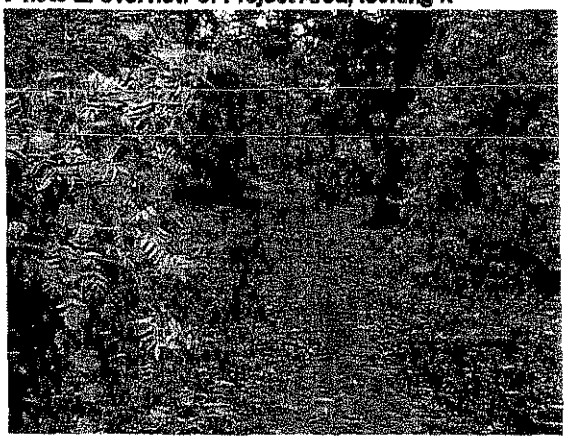

**Photo 3: Riparian Area looking towards Camellia Park**

**Photo 4 : Entrance into Bidwell Park**

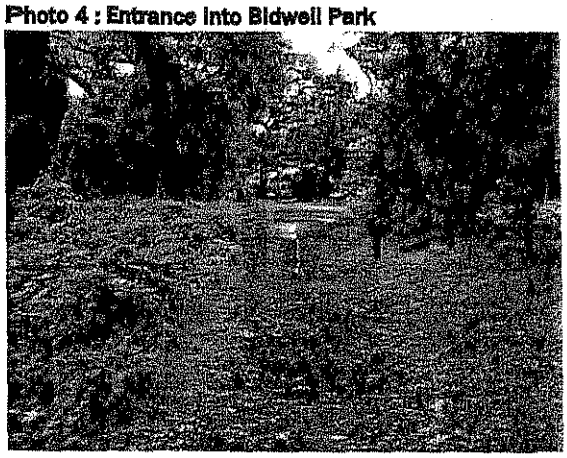

**Photo 5: Toward Woodland Avenue**

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## RECOMMENDATIONS

Based on the results of the records search and the limited ground visibility in the study area, CRA recommends that an archaeological monitor be present during initial ground disturbance. Should cultural resources be encountered during construction grading, trenching, and/or excavation, work in the project area must be halted and a qualified archaeologist should evaluate the resource(s) encountered. See CEQA Checklist V (Cultural Resource): Items (a), (b), and (c): below. If prehistoric resources are encountered during ground moving activities, then the Mechoopda Tribe should be contacted so that a Native American Monitor can also be placed on site.

Although unlikely, the discovery of human remains is always a possibility; State of California Health and Safety Code Section 7050.5 covers these findings. This code section states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. See CEQA Checklist V (Cultural Resource): Item (d), below.

**CEQA Checklist Section V (Cultural Resource): Items (a), (b), and (c):**

Pursuant to Federal (36 CFR 800.13) If project requires §106 consultation) and State (PRC §21083.2) regulations as well as consistency with CEQA Guidelines §16064.5(f) a note shall be placed on all construction plans which informs the construction contractor that if any potential archaeological, cultural or paleontological resources are encountered during construction, all work shall cease within 3 meters (10 feet) of exposure of any unanticipated significant cultural materials of the prehistoric or historic periods until a qualified archaeologist can evaluate the find. Examples of such cultural materials would include ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; fragments of non-fossil shell; concentrations of bottles and/or ceramics; or structural remains. The archaeologist will assess the significance of the find and prepare appropriate mitigation measures for review by the Building and Development Services Director. All mitigation measures determined by the Building and Development Services Director to be appropriate for this project shall be implemented pursuant to the terms of the archaeologist's report.

**CEQA Checklist Section V (Cultural Resource): Item (d):**
Pursuant to State PRC §7050.5, if human remains, including human bone are unearthed during construction, the construction contractor must cease work within 100-feet or any nearby area reasonably suspected to overlie adjacent human remains until: the county coroner has been informed and has determined that no investigation of the cause of death is required; and if the remains are of Native American origin: the descendants of the deceased Native American have made a recommendation to the land owner or the person responsible for the excavation work regarding the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC §5097.98 and §5097.99 and the Native American Graves Protection and Repatriation Act (NAGPRA); or the NAHC was unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 24 hours after being notified by the NAHC.

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# APPENDIX A
## Record Search
## Not For Public Distribution



CRA
Cultural Research Associates
295 E. 8th Street Chico, CA 95928 (530) 521-8046

An Archaeological Assessment within the Marysville Levee Commission
in Yuba County, California
Part of the Cultural Resources Inventory and Evaluation for U.S. Army
Corps of Engineers, Sacramento District, PL 84-99 Levee Rehabilitation on the
Feather, Bear, Sacramento and San Joaquin Rivers System
COE Water Basin System Designation SAC 16
DACW05-97-P-0465

**Prepared for:**

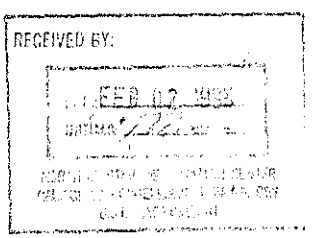
U.S. Army Corps of Engineers
Sacramento District
Planning Division
1325 J Street
Sacramento, California 95814-2922

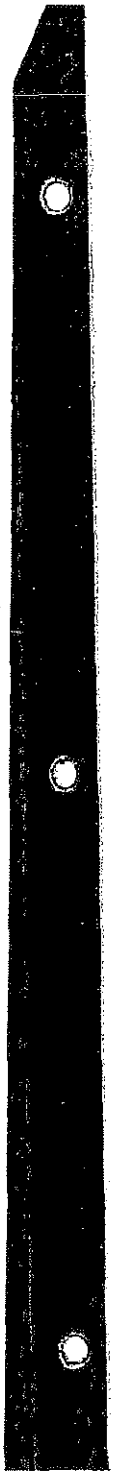
**Prepared by:**

William Shapiro and Keith Syda
Pacific Legacy, Inc.
428½ First Street, Suite 204
Woodland, California 95695

December 16, 1997

7907





*SACRAMENTO RIVER FLOOD CONTROL SYSTEM EVALUATION*

*MARYSVILLE - YUBA CITY AREA*

*CULTURAL RESOURCES SURVEY*

(Contract No. DACW05-90-P-1417)

UNITED STATES DEPARTMENT OF THE ARMY
Sacramento District, Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814-4794

FAR WESTERN ANTHROPOLOGICAL RESEARCH GROUP, INC.
P.O. Box 413, Davis, CA 95617

March 1990

BAILEY

7922

CULTURAL RESOURCE ASSESSMENT

OF THE PROPOSED WASTEWATER TREATMENT

PLANT MODIFICATION ALONG THE SOUTHERN

BANK OF THE YUBA RIVER, YUBA COUNTY, CALIFORNIA

Prepared by

Peak & Associates, Inc.
8167-A Belvedere Avenue
Sacramento, CA 95826
(916) 452-4435

Prepared for

Jones & Stokes Associates, Inc.
1725 - 23rd Street, Suite 100
Sacramento, CA 95816

November 16, 1988

# APPENDIX A
## Native American Consultation
## Not for Public Distribution

ANNIE'S GLEN

CULTURAL RESEARCH ASSOCIATES

295 E. 8th Street
Chico, CA 95928
Phone number 530.521.8046
Fax number 530.566.1657

| **Send to:** California Native American Heritage Commission | **From:** Lori Harrington |
|---|---|
| Attention: Debbie Pilas Treadway | Date: 10/10/07 |
| Fax Number 916.657.5390 | Fax Number: 530.566.1657 |
| Phone Number: 916.653.4038 | |
| | |
| Subject: DATA REQUEST FOR YUBA COUNTY | |

- ☐ Urgent
- ☐ Reply ASAP
- ☐ Please comment
- ☐ Please review
- ☐ For your information

Total pages, including cover: 2

## Remarks:

Debbie, here is a search request for a project in Yuba County, downtown Marysville called Washington Square. I have attached a map showing the extent of the property (Mount Diablo Meridian): Yuba City Quad

T. 15N, R. 3E. Unsectioned.

I am requesting the following information:

- Groups or individuals the NAHC believes should be notified regarding this project.
- Identification by the NAHC of any sacred lands within the subject lands that are listed within the Sacred Lands File.

Thank you for your attention to this request.

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

October 18, 2007

Lori Harrington
CULTURAL RESEARCH ASSOCIATES
295 E 8th street
Chico, CA 95928

Sent by Fax: 530-566-1657
Number of Pages: 4

Re: Proposed Washington Square project, Marysville, yuba County. Bike path project, Butte County.

Dear Ms. Harrington:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

**Native American Contacts**
Butte County
October 19, 2007

Berry Creek Rancheria of Maidu Indians
Cultural Resources Rep
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Oroville , CA 95966
gmix@berrycreekrancheria.
(530) 534-3859
(530) 534-1151 FAX

Berry Creek Rancheria of Maidu Indians
Jim Edwards, Chairperson
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(530) 534-1151 FAX

Butte Tribal Council
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Enterprise Rancheria of Maidu Indians
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eranch@cncnet.com
(530) 532-9214
(530) 532-1768 FAX

Enterprise Rancheria of Maidu Indians
Glenda Nelson, Chairperson
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Greenville Rancheria of Maidu Indians
Chairperson
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(530) 284-6612 - Fax

Greenville Rancheria of Maidu Indians
Mike DeSpain, EPA/Cultural Resources
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mdespain.
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Greenville Rancheria of Maidu Indians
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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed bike path project, Butte County.

**Native American Contacts**
Butte County
October 19, 2007

KonKow Valley Band of Maidu
Patsy Seek, Chairperson
1706 Sweem Street — KonKow / Concow Maidu
Oroville , CA 95965
(530) 533-1504

Mechoopda Indian Tribe of Chico Rancheria
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125 Mission Ranch Blvd — Mechoopda Maidu Concow
Chico , CA 95926
pcuddeford@mechoopda-nsn.
(530) 899-8922 ext-209
Fax: (530) 899-8517

Maidu Cultural and Development Group
Lorena Gorbet
PO Box 426 — Maidu
Greenville , CA 95947
(530) 284-1601

Mooretown Rancheria of Maidu Indians
Gary Archuleta, Chairperson
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(530) 533-3680 Fax

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Susanville , CA 96130

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1706 Sweem Street — KonKow / Concow
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ANNIE'S GLEN

Cultural Research Assoc.

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Subject: Washington Square, Yuba County

Date: October, 17, 2007

The purpose of this letter is to apprise you of two proposed projects 1Annie's Glen. in Chico, a bike path improvement project and. 2. Washington Square in Marysville, a redevelopment (see enclosed maps.)

On behalf of the property owners, the subcontractor Cultural Research Assoc. has contacted the Native American Heritage Commission (NAHC) to obtain a list of groups or individuals that may have specific knowledge of cultural resources or other concerns within the defined project areas. A search of the sacred lands file and a record search at the Northeast Information Center indicated that there are no known Native American cultural resources within or adjacent to the project area. Your name was supplied to us by the NAHC because you may have knowledge of specific cultural resources within the defined project areas, or know of other individuals or groups who may have specific knowledge. Please contact me at (530) 521-8046, or write to the letterhead address regarding this or other specific concerns in the project area. For your convenience, I can also be reached via fax (530) 566-1657 or email at: cra_lori@sbcglobal.net.

If you do not reply by November 20 2007, noon, it will be assumed that you have no comments regarding the current project area outlined on the enclosed map.

Sincerely,

Lori Harrington

Greenville Rancheria

P.O. Box 279 / 410 Main Street • Greenville, CA 95947 • 530.284.6135 • Fax 530.284

October 22, 2007

Cultural Research Associates
295 E. 8th Street
Chico, CA 95928

Attn: Lori Harrington

**Re: Annie's Glenn**

Ms. Harrington,

I am writing in response to your letter dated October 17, 2007, indicating a proposed project in Chico, California.

The Tribe is very concerned with the preservation of any Native American Archaeological or Cultural Sites within the project area, or which may be impacted as a result of project activities (pursuant to 14 CCR § 895.1) These sites include, but are not limited to: village sites, camp sites, petroglyphs, prehistoric trails, quarries, milling stations, cemeteries, ceremonial sites, or traditional cultural sites and properties. We are not aware at this time of any data indicating such sites in your project area, but we would request that if any evidence is located, you cease and desist from any operations which would impact the archeological site until we have had an opportunity to visit and record it for future protection.

It is also the Tribe's position that extreme care be taken to preserve all watersheds, all Riparian Habitat Conservation Areas; and in general, the prohibition of any project activities which would diminish water quality.

We appreciate your notification and would like you to contact Berry Creek, Mooretown, and Mechoopda Rancherias for more information regarding this site. If there is any assistance that I can provide during this process, please do not hesitate to contact me.

Thank you,

Michael D. DeSpain
Environmental Director, Greenville Rancheria
mdespain.epa@greenvillerancheria.com

# Enterprise Rancheria

Estom Yumeka Maidu Tribe

1940 Feather River Blvd., Suite B
Oroville, CA. 95965-5723

Ph: (530) 532-9214
Fax: (530) 532-1768
Email: cranch@cncnet.com


November 8, 2007

Lori Harrington

RE: Annie's Glenn, Chico Butte, County
Washington Square, Yuba County

Enterprise Rancheria EPA Department
**We offer tribal monitors to assist on these projects!**

Our protocol is as follows-

If during ground disturbing activities, any resources are uncovered all work shall cease within the area of the find, pending an examination of the site and materials by a professional Archaeologist and tribal monitor!

If any remains are uncovered, the Health and Safety Code 7050 -55097.9 shall be enforced and strictly adhered to!

The tribes will work with local authorities on the disposition of cultural resources.
We will be working with you on this project!

Thank You Ren Reynolds
EPA Planner
Site Monitor

## ANNIE'S GLEN

| NAME | Affiliation | Letter Sent | Date Responded | Concerns | Phone Call on 11/9/07 |
|---|---|---|---|---|---|
| Enterprise Rancheria of Maidu Indians Ren Renyolds Oroville, CA 95965 | Maidu | 17 Oct-07 | Sent Letter on 11/8/07 | No specific concerns | None |
| Berry Creek Rancheria of Maidu Indians Petti Reese-Allen/Jim Edwards. Oroville CA 95966 | Tyme Maidu | 17 Oct-07 | Did not respond | None | Left message to call with concerns by noon on 11/16/07 |
| KonKow Valley Band of Maidu. Patsy Seek Oroville CA 95965 | KonKow / Camcow Maidu | 17 Oct-07 | Did not respond | None | Left message to call with concerns by noon on 11/16/07 |
| Maidu Cultural and Development Group. Lorena Gorbert Greenville CA 95947 | Maidu | 17 Oct-07 | Sent Letter | None | Left message to call with concerns by noon on 11/16/07 |
| Maidu Nation Clara LeCompte Susanville, CA 96130 | Maidu | 17 Oct-07 | Did not respond | None | Left message to call with concerns by noon on 11/16/07 |
| Mechoopda Indian Tribe of Chico Rancheria Steve Santos/Hygi Waetermans Chico CA 95926 | Mechopoda Maidu Concow | 17 Oct-07 | Sent Letter | None | Left message on 11/9/07 to call with concerns by noon on 11/16/07. Left second message to call with concerns on 11/14.07. |

## ANNIE'S GLEN

| | | | | | |
|---|---|---|---|---|---|
| Mooretown Rancheria of Maidu Indians Gary Archuleta/ James Sanders Oroville CA 95966 | Maidu KonKow / Concow | 17 Oct-07 | Did not respond | None | Left message to call with concerns by noon on 11/16/07 |
| Butte Tribal Council Oroville Ren Renyolds | Maidu | 17 Oct-07 | Sent Letter 11/8/07 | No Specific Concerns See Enterprise Rancheria Response | N/A |
| Greenville Rancheria of Maidu Indians. Lorie Jaines, Mike DeSpain | Maidu | 17 Oct-07 | Sent Letter 10/22/07 | None | N/A |

**ATTACHMENT B**

BIOLOGICAL RESOURCE ASSESSMENT, GALLAWAY CONSUNLTING, INC, 2008

# Biological Resource Assessment

## Annie's Glen Bicycle & Pedestrian Facilities
Chico, California

January 2008

*Prepared for:*

City of Chico
Capital Project Services
ATTN: Jeff Jukkola
411 Main St.
Chico, CA 95928

*Prepared by:*

GALLAWAY
CONSULTING, INC.
117 Meyers Street, Suite 110, Chico, CA 95928
Phone (530) 343-8327 Fax (530) 343-8312

# Biological Resource Assessment

## Annie's Glen Bicycle & Pedestrian Facilities
Chico, CA

January 2008

*Prepared for:*

*City of Chico*
*Capital Project Services*
*ATTN: Jeff Jukkola*
*411 Main St.*
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USFWS Species List

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CNDDB Species List

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**Appendix D**
Species Observed in the BSA

## Attachments

**Attachment A**
Electronic copy of report on CD.

# List of Abbreviated Terms

| | |
|---|---|
| BPTA | Best Practices Technical Manual |
| BSA | Biological Survey Area |
| CDFG | California Department of Fish and Game |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFGC | California Fish and Game Code |
| CNDDB | California Natural Diversity Database |
| CNPS | California Native Plant Society |
| EPA | U.S. Environmental Protection Agency |
| ESA | Federal Endangered Species Act |
| GCI | Gallaway Consulting, Inc. |
| MBTA | Migratory Bird Treaty Act |
| NEPA | National Environmental Policy Act |
| NMFS | (NOAA) National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NPDES | National Pollution Discharge Elimination System |
| RWQCB | Regional Water Quality Control Board |
| SNC | Sensitive Natural Community |
| USACE | U.S. Army Corps of Engineers |
| USFWS | United States Fish and Wildlife Service |
| USGS | U.S. Geological Survey |

## EXECUTIVE SUMMARY

Gallaway Consulting, Inc. conducted biological surveys in the ±13-acre Annie's Glen Bicycle & Pedestrian Facilities Biological Survey Area (BSA) in Chico, Butte County, California. The BSA is located in Section 26, T22 N, R01 E, on the *Chico* USGS 7.5-minute quadrangle. Surveys were conducted on 09/04, 09/18, 12/03/2007, and 01/17/2008 by biologist Trish Ladd and botanists Elena Alfieri and Ciaran McCarthy to determine the presence of sensitive biological resources within the BSA and if these resources would be impacted by the proposed project. The project would construct and/or resurface: a Class I bikeway from East 2nd Street to Woodland Avenue (including an underpass at Pine Street) south of Big Chico Creek, a clear-span pedestrian bridge over Big Chico Creek linking to Vallombrosa and a storm drain outfall along Big Chico Creek. Annie's Glen is located at the western end of Lower Bidwell Park, south of Vallombrosa, and west of Pine Street in Chico, CA. This area is utilized as a picnic area and a bicycle/pedestrian entry path to the 3,670 acre Bidwell Park (City of Chico 2007).

Big Chico Creek, a tributary of the Sacramento River, traverses the BSA from east to west and is bordered by great valley mixed riparian forest, a sensitive natural community (SNC) per the California Department of Fish and Game (CDFG). Dominant vegetation within the site included valley oak, cottonwood, sycamore, Himalayan blackberry and California grape. Blue elderberry shrubs, the sole host plant for the federally threatened Valley elderberry longhorn beetle (VELB) was also located within the BSA's riparian corridor. Big Chico Creek is within designated Critical Habitat for the federally listed Central Valley steelhead and spring-run Chinook salmon, as identified in the Federal Register. The anadromous species generally enter the creek in the spring. They tend to hold in deep pools until they spawn upstream of the project site around the onset of autumn. The potential spawning areas for anadromous fish are located upstream from the project site. If impacts are expected to occur, the National Oceanic and Atmospheric Administration (NOAA) should be consulted per §7 of the Endangered Species Act. Similarly, the project will require consultation with the U.S. Fish and Wildlife Service (USFWS) concerning the federally listed VELB, which has a high potential to occur within the project site.

Should dredge or fill materials be placed within Big Chico Creek, a U.S. Army Corps of Engineer's (USACE) permit and water quality certification will be required per §404 and §401 of the CWA. Certification is issued by the Regional Water Quality Control Board (RWQCB), which may also require a National Pollution Discharge Elimination System (NPDES) permit per §402 of the CWA. A CDFG Streambed Alteration Agreement (SAA) should be obtained for the proposed project per §1600 of the state Fish and Game Code. The SAA will identify appropriate best management practices (BMPs). All work should be conducted above the ordinary high water mark (OHWM) of Big Chico Creek and the removal of shade producing vegetation should be avoided to the extent practicable.

Suitable nesting and foraging habitat for raptors and other birds protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code §2080 and §3500. Thus, pre-construction raptor surveys should be conducted April-May, or within 30 days prior to construction activities, to determine if nesting special-status birds occur in, or in close proximity to the BSA. Should nesting special-status birds be observed, appropriate mitigation or avoidance measures will be required.

## 1.0 INTRODUCTION

Gallaway Consulting, Inc. conducted biological surveys in the Annie's Glen Bicycle & Pedestrian Facilities Biological Survey Area (BSA) in Chico, Butte County, California (**Figure 1**). The ±13-acre BSA is located in §26, T22 North, R01 East on the *Chico* USGS 7.5-minute quadrangle. The BSA is utilized as a picnic area and is widely used by pedestrians and bicyclists as an entry path to Chico's Lower Bidwell Park (**Figure 2**). Big Chico Creek, a direct tributary to the Sacramento River, traverses the BSA from east to west and is bordered by valley-foothill riparian habitat that consists largely of valley oak, cottonwood, sycamore, Himalayan blackberry, California grape, and blue elderberry. Surveys were conducted on September 4, 18, December 3, 2007, and January 17, 2008 by biologist Trish Ladd and botanists Elena Alfieri and Ciaran McCarthy to determine the presence of sensitive natural resources and to determine if these resources could be impacted by the proposed project.

## 2.0 METHODS

### 2.1 Biological Resources

#### *2.1.1 Special-Status Species*

Gallaway Consulting, Inc. obtained lists of special-status species that potentially occur in the vicinity of the BSA from the USFWS (**Appendix A**), the CDFG Natural Diversity Database (CNDDB, **Appendix B**), and the California Native Plant Society's (CNPS) List of Rare and Endangered Plants (**Appendix C**). Special-status species are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 CCR 670.5) or the federal Endangered Species Act (ESA, 50 CFR 17.12);
- Listed as a Species of Special Concern by CDFG or protected under the California Fish and Game Code (CFGC, §3503.5);
- Included on the CNPS List 1A, 1B or 2;
- Protected under the Migratory Bird Treaty Act (MBTA); or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA, §15380).

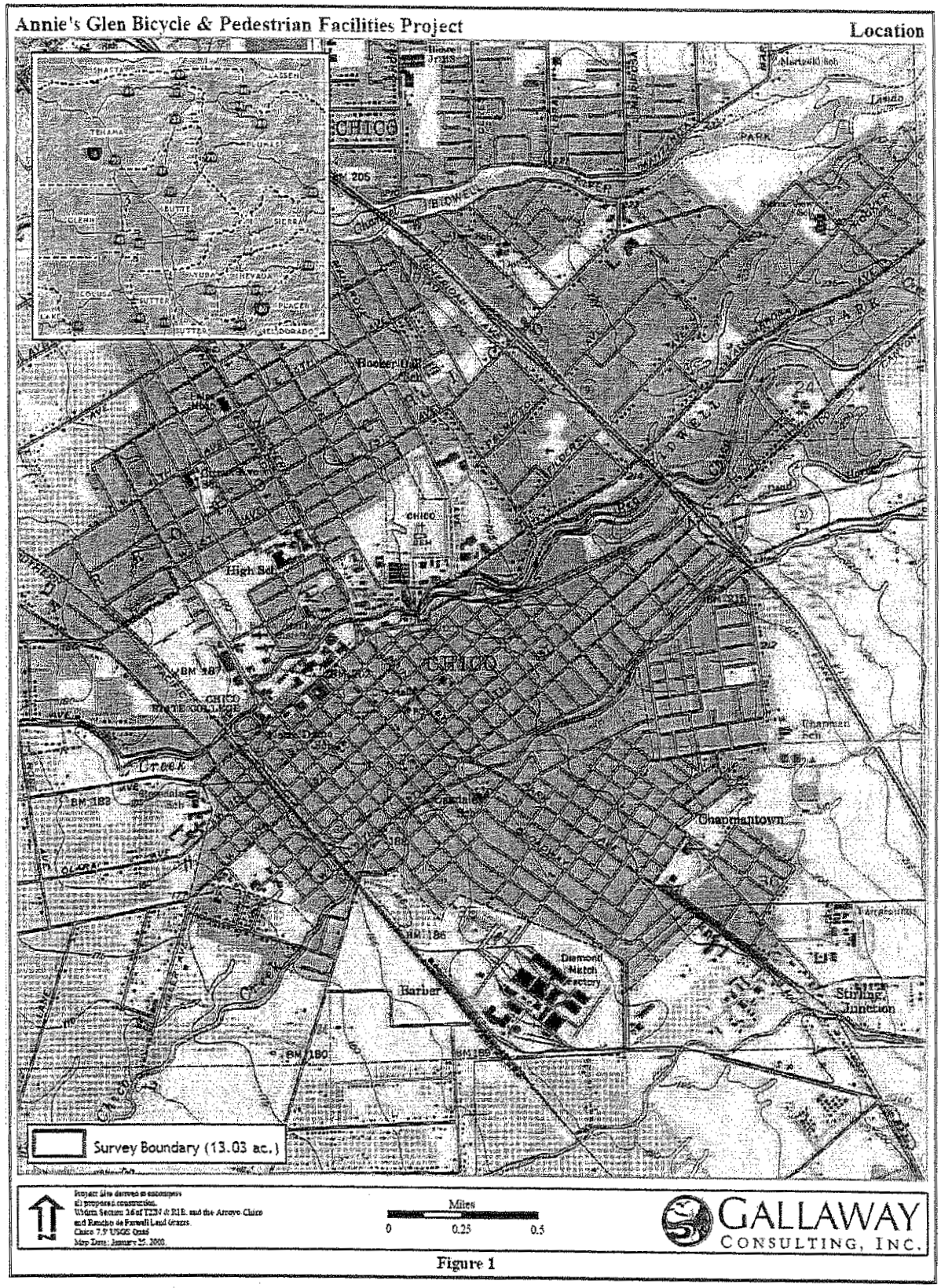

Annie's Glen Bicycle & Pedestrian Facilities Project
Location
CHICO
Survey Boundary (13.03 ac.)
Project Site derived to encompass
all proposed construction.
Within Section 34 of T22N & R1E and the Arroyo Chico
and Rancho de Farwell Land Grants
Chico 7.5' USGS Quad
Map Date: January 15, 2008
Miles
0
0.25
0.5
GALLAWAY
CONSULTING, INC.

Figure 1


Annie's Glen Bicycle & Pedestrian Facilities Project
Location within Bidwell Park
Memorial Way
Camellia Way
East Third St
Woodland Ave
East First St
East Second St
Flume St
East Fifth St
Cypress St
East Sixth St
East Eighth St
Survey Boundary (13.03 ac.)
Lower Bidwell Park
Feet
0
250
500
GALLAWAY
CONSULTING, INC.

Figure 2

*Sensitive Natural Communities*

GCI consulted the CNDDB to identify sensitive natural communities (SNC) occurring in the *Chico* USGS 7.5-minute quadrangle and eight surrounding USGS quadrangles. The Office of Planning and Research define project effects that substantially diminish habitat for fish, wildlife or plants, or that disrupt or divide the physical arrangement of an established community as significant impacts under CEQA (PRC §21083 and CEQA Guidelines §15382 ). This definition applies to certain natural communities because of their scarcity and ecological values and because the remaining occurrences are vulnerable to elimination. The CNDDB identifies sensitive natural communities, which includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are ecologically important because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. If the number and extent of SNC continue to diminish, the status of rare, threatened, or endangered species could become more precarious, and populations of common species (i.e., non special-status species) could become less viable. Loss of SNC can also eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian woodlands.

### *2.1.2 Critical Habitat*

When a species is listed as threatened or endangered under the federal ESA, areas of habitat considered essential to its conservation and survival may be designated as critical habitat. Gallaway Consulting, Inc. determined if the BSA is located within designated Critical Habitat for federally listed species per the ESA. These areas may require special consideration and/or protection due to their ecological importance. Although critical habitat may be designated on state or private lands, activities on them are not restricted unless there is federal involvement or direct impacts to listed species are expected.

## 2.2 Waters of the United States

A USACE §404 permit and a RWQCB §401 water quality certification will be required per the CWA if impacts to jurisdictional waters are anticipated. A §402 NPDES permit will also be required per the CWA if the project disturbs greater than one acre.

## 2.3 Field Surveys and Personnel

Biological surveys were conducted in the BSA on September 4, 18 and December 3, 2007 and January 17, 2008 by biologist Trish Ladd and botanists Elena Alfieri and Ciaran McCarthy. The biological field surveys were conducted to determine whether special-status species and habitats have a potential to occur in the BSA and to determine if these biological resources could be impacted by the proposed project. Due to the timing of the surveys, no protocol-level rare plant surveys were conducted. However, the site's habitat suitability for rare plants was assessed by botanists during the field surveys.

## 3.0 RESULTS

### 3.1 Environmental Setting

The project area is located in the southwestern portion of Lower Bidwell Park (**Figure 2**) south of Vallombrosa Avenue and west of Pine/Cypress Street in Chico, Butte County, California. Big Chico Creek, a direct tributary to the Sacramento River, traverses the BSA from east to west and is bordered by valley-foothill riparian habitat that consists largely of valley oak (*Quercus lobata*), Fremont's cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*). Sub-canopy associates include blue elderberry (*Sambucus caerulea),* California grape (*Vitis californica)* and Himalayan blackberry (*Rubus discolor*).

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2006 *Soil Survey of Butte Area, California Parts of Butte and Plumas Counties* identified one soil map unit in the BSA: Vina fine sandy loam 0 to 1% slopes. It is a well-drained soil generally found on valley floors ranging in elevations from 140 to 240 feet above sea level with a mean annual precipitation of 22 to 25 inches.

Local hydrology consists of a single intermittent stream, Big Chico Creek, which conveys water in a southwest direction to the Sacramento River. The BSA receives its water naturally from precipitation events and surface runoff exits the property via Big Chico Creek. Typical storm drainage facilities in the adjacent roadways convey runoff into the Municipal Separate Storm Water System.

### 3.2 Sensitive Natural Communities

#### *3.2.1 Great Valley Mixed Riparian Forest*

According to the CNDDB, a corridor of great valley mixed riparian forest occurs within the valley-foothill riparian habitat in the BSA. Great valley mixed riparian forests are tall, dense, winter-deciduous, broadleafed forests with tree canopies that are fairly well closed. The primary canopy species within the riparian habitat are the valley oak, Fremont's cottonwood and California sycamore; subcanopy associates include blue elderberry, California grape, Himalayan blackberry and western redbud. Great valley mixed riparian forest is generally found in fine-textured alluvium areas somewhat back from active river channels. These areas experience overbank flooding where additional deposition, but not necessarily severe physical battering or erosion, occurs. The further from the river and disturbing episodes, the great valley mixed riparian forest integrates into a more oak dominated habitat, such as great valley/valley oak riparian forest (Holland, 1986).

Riparian habitats support an abundance of wildlife and are important foraging and/or nesting habitat for a variety of birds, mammals, reptiles and amphibians. Riparian habitats are considered sensitive natural communities and require consultation with CDFG and compliance with the City's applicable programs identified in the Best Practices Technical Manual (BPTM).

## 3.3 Critical Habitat

The segment of Big Chico Creek located in the BSA occurs within designated Critical Habitat for Central Valley steelhead and Spring-run Chinook salmon per the ESA. Central Valley steelhead enter the river system in late August to September and spawn in fast moving riffles of Big Chico Creek in the winter. Spring-run Chinook salmon enter Big Chico Creek from late February to May and Spawn in the early fall.

## 3.4 Habitat Characterization

Gallaway Consulting, Inc characterized all the habitat types within the BSA that may be impacted by the development of a bicycle/pedestrian bridge using a classification system based on Mayer and Laudenslayer (1988). The following habitat types occur within the BSA:

### *3.4.1 Riverine*

Riverine habitat occurs within Big Chico Creek flowing east to west in the BSA. Riverine habitat is defined as a major intermittent or perennial stream and the inclusive habitats surrounding the channel edges. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. The rate at which a stream erodes its channel is determined by the nature of the substrate, composition of the water, climate, and the gradient – the greater the slope, the greater the capacity to transport abrasive materials through increased velocity. The open water zones of large streams provide resting and escape cover for many species of waterfowl, gulls, and osprey. Near-shore waters provide food for waterfowl, herons, shorebirds, belted-kingfisher, and American dipper. Other animals include insectivorous birds (*i.e.,* swallows, swifts, flycatchers), river otter, mink, muskrats, and beavers. The riverine habitat on-site occurs in association with the great valley mixed riparian habitat as verified by the CNDDB.

### *3.4.2 Valley-foothill riparian*

Valley-foothill riparian habitats occur in California's Central Valley and surrounding foothills. They are generally associated with low flow, flood plains and gentle topography. A typical mix of cottonwood, sycamore and valley oak provide a canopy cover of 20 to 80 percent. The sub-canopy often includes various willows, alders and buttonbush. In addition to a sub-canopy, a vine understory, including blackberry, grapes, poison oak, and wild rose is common. Occasionally, a shade-tolerant herbaceous layer of grasses occurs. Transition to adjacent non-riparian habitat is usually abrupt; and is usually associated with agriculture, grassland, oak woodland and riverine habitats. Riparian habitats provide food, water, migration and dispersal corridors as well as escape, nesting, and thermal cover for an abundance of wildlife. At least 50 species of amphibians and reptiles occur in lowland riparian systems. Many are permanent residents; others are transient or temporal visitors. A study conducted on the Sacramento River recorded 147 bird species as nesters or winter visitants. Additionally, 55 species of mammals are known to use California's Central Valley riparian communities (Mayer 1988).

Valley-foothill riparian is a term used by Mayer and Laudenslayer (1988) to characterize riparian habitats occurring in the Central Valley and the lower foothills of California. The CDFG further analyzed California's riparian habitats, based on dominant vegetation, and identified portions of

great valley mixed riparian forest (see Section 3.2 above) occurring in association with valley-foothill riparian habitat in the BSA.

## 3.5 Special-Status Species

A complete list of CNDDB special-status species records within the Chico and eight surrounding 7.5-minute USGS quadrangles is provided in **Appendix A** of this document. A summary of target special-status species with the potential of occurring within the BSA based on surveys, CNDDB documented occurrences (**Figure 4**), and suitable habitat is presented in **Table 1**.

### *3.5.1 Plants*

None of the rare or sensitive plant species in Table 2 are known to occur or were found within the BSA during the September 4, 18 and December 3, 2007, and January 17, 2008 field surveys. Two plant species were determined to have a low potential for occurrence, California beaked-rush and fox sedge. California beaked-rush and fox sedge were determined to have a low potential based on the lack of suitable habitat, including the lack of slow moving waters and fresh emergent wetlands.

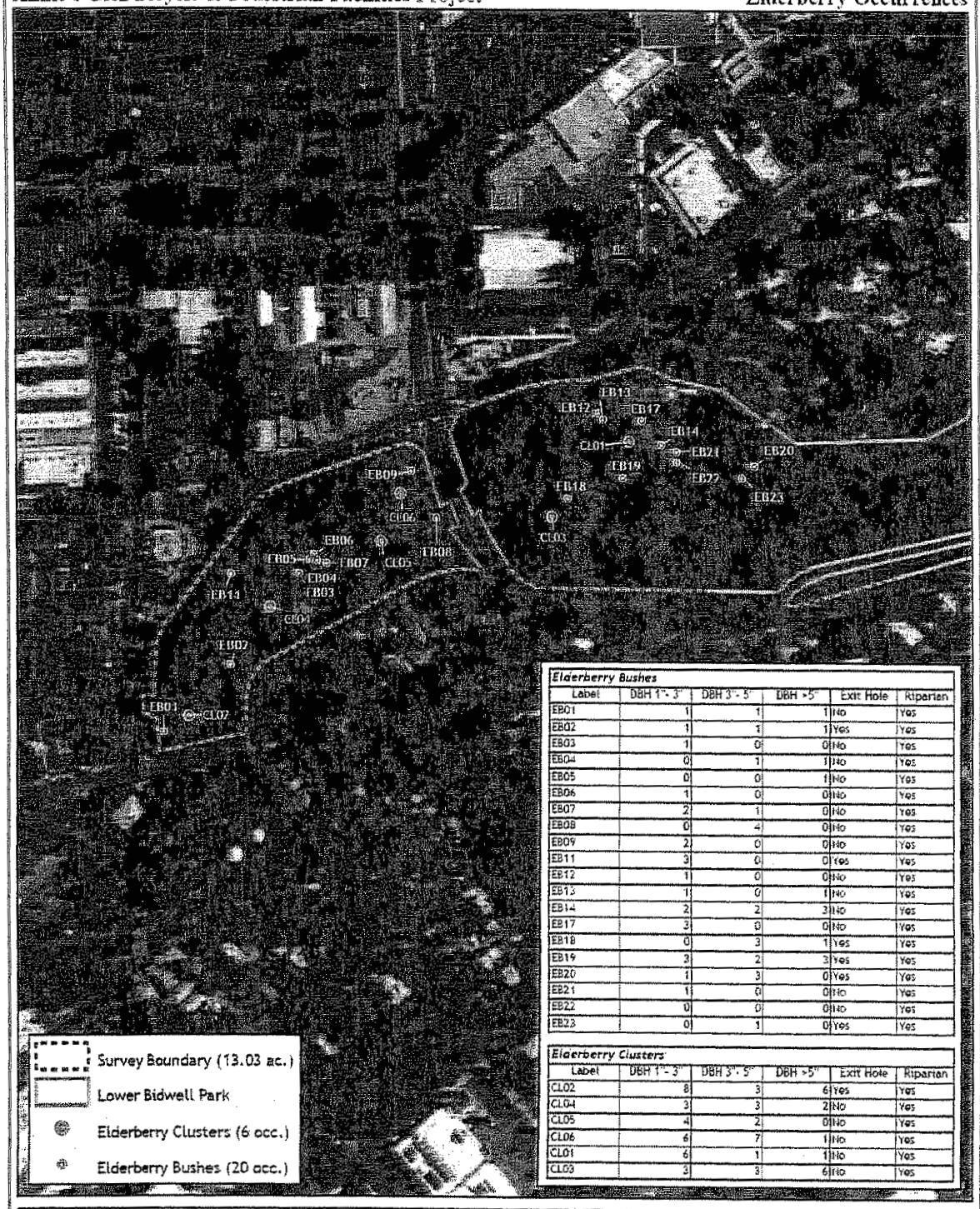
### *3.5.2 Invertebrates*

*Valley Elderberry Longhorn Beetle*

The VELB occurs in the Central Valley of California below 3,000 feet. It is distributed primarily within riparian habitats from Shasta County to Kern County. The beetle is dependent solely on blue elderberry shrubs to complete its lifecycle. The adult beetles emerge from the elderberry stems from April to early June. The adults mate and the females lay eggs on the tips of twigs. The eggs hatch and the larva bore into twigs and feed on the pith. Before the larva pupates, it makes an exit hole in the elderberry stem. These holes serve as an indication of the occurrence of VELB in elderberry shrubs. After pupation, the adult beetle emerges from the pupal skin and exists from the interior of the elderberry stem. Besides exhibiting a preference for "stressed" elderberry, VELB prefer shrubs with stems of a certain size class. Exit holes have been found more frequently in trunks or branches that are 5 to 20 cm (2-8 in) in diameter, or at least 1.0 inch or greater at ground height (USFWS 1999) and less than one meter off the ground (Collinge *et al.* 2001). Research also shows that exit holes more consistently occur in clumps or stands than in isolated shrubs (Collinge *et al.* 2001). There are several elderberry shrubs located in the riparian corridor along the northern boundary of the BSA, exit holes were identified on four shrubs and within one cluster of shrubs.

There are 20 blue elderberry shrubs and 6 blue elderberry shrub clusters located within the BSA (**Figure 3**). No adult beetles were observed, however, exit holes were located on four elderberry shrubs and within one cluster. Refer to **Table 2** below for elderberry shrubs located in the BSA. If identified during field surveys, these holes are indicative of VELB. Only clean-cut holes of the proper size and shape were considered to be evidence of VELB habitation. Eroded and/or weathered holes, or holes enlarged by birds or other insects were frequently encountered, but were usually unverifiable. Insects that live and feed in dead wood, such as termites, bostrichid beetles, and ants, often invade old, dead branches and trunks and damage evidence of prior VELB habitation.

Annie's Glen Bicycle & Pedestrian Facilities Project — Elderberry Occurrences




*Elderberry Bushes*

| Label | DBH 1"- 3" | DBH 3"- 5" | DBH >5" | Exit Hole | Riparian |
|---|---|---|---|---|---|
| EB01 | 1 | 1 | 1 | No | Yes |
| EB02 | 1 | 1 | 1 | Yes | Yes |
| EB03 | 1 | 0 | 0 | No | Yes |
| EB04 | 0 | 1 | 1 | No | Yes |
| EB05 | 0 | 0 | 1 | No | Yes |
| EB06 | 1 | 0 | 0 | No | Yes |
| EB07 | 2 | 1 | 0 | No | Yes |
| EB08 | 0 | 4 | 0 | No | Yes |
| EB09 | 2 | 0 | 0 | No | Yes |
| EB11 | 3 | 0 | 0 | Yes | Yes |
| EB12 | 1 | 0 | 0 | No | Yes |
| EB13 | 1 | 0 | 1 | No | Yes |
| EB14 | 2 | 2 | 3 | No | Yes |
| EB17 | 3 | 0 | 0 | No | Yes |
| EB18 | 0 | 3 | 1 | Yes | Yes |
| EB19 | 2 | 2 | 3 | Yes | Yes |
| EB20 | 1 | 3 | 0 | Yes | Yes |
| EB21 | 1 | 0 | 0 | No | Yes |
| EB22 | 0 | 0 | 0 | No | Yes |
| EB23 | 0 | 1 | 0 | Yes | Yes |

*Elderberry Clusters*

| Label | DBH 1"- 3" | DBH 3"- 5" | DBH >5" | Exit Hole | Riparian |
|---|---|---|---|---|---|
| CL02 | 8 | 3 | 6 | Yes | Yes |
| CL04 | 3 | 3 | 2 | No | Yes |
| CL05 | 4 | 2 | 0 | No | Yes |
| CL06 | 6 | 7 | 1 | No | Yes |
| CL01 | 6 | 1 | 1 | No | Yes |
| CL03 | 3 | 3 | 6 | No | Yes |

Survey boundary derived from 125' buffer of occurrences footprint
Bidwell Park boundary derived from Butte County Assessor data
Surveyor: TL, CM (09/04/07, 09/18/07)
Aerial: Feb., 2005 (NAIP)
Map Date: October 1, 2007, Revised: January 23, 2008.

Feet
0 200 400

GALLAWAY CONSULTING, INC.

Figure 3

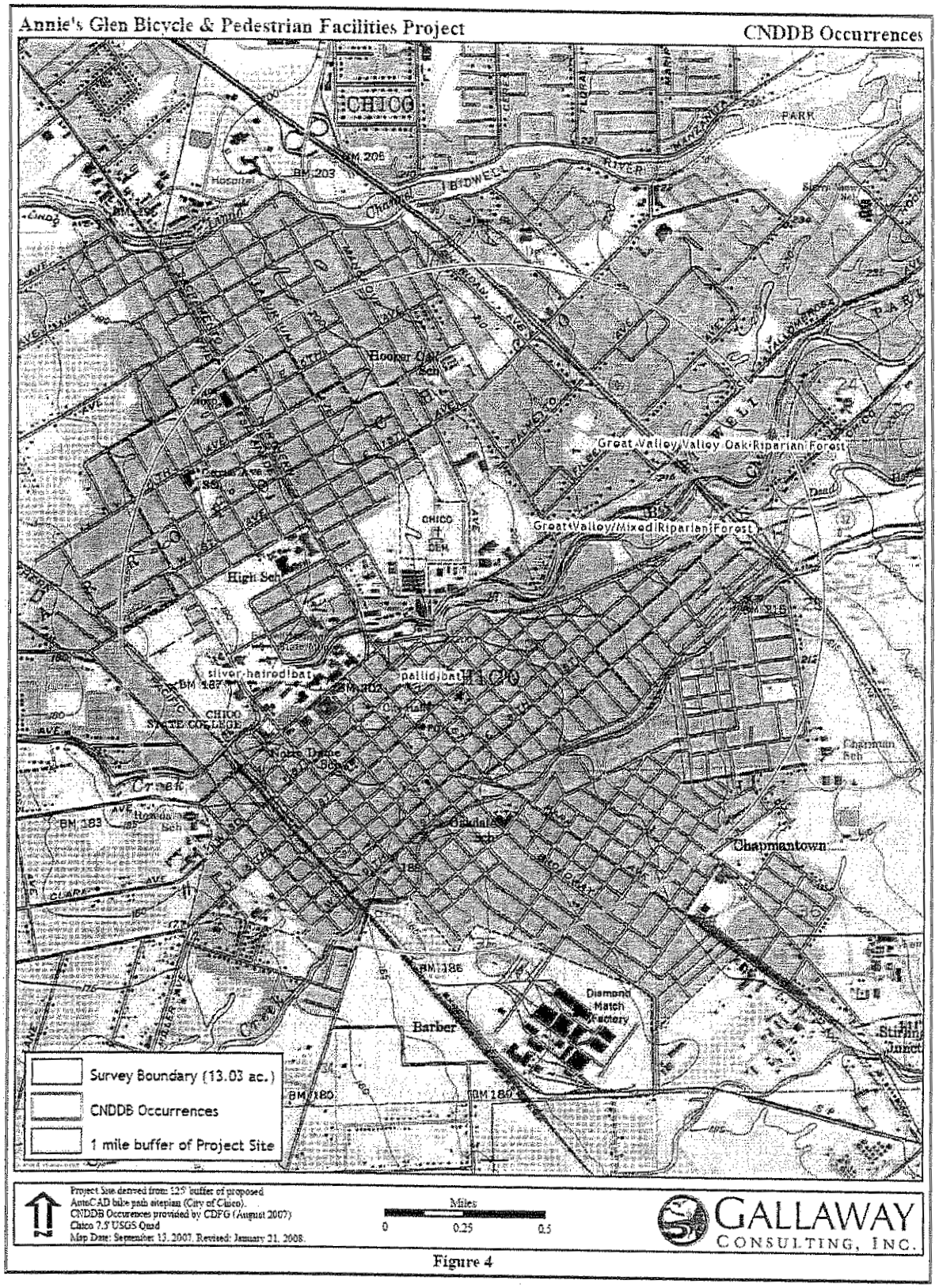

Annie's Glen Bicycle & Pedestrian Facilities Project
CNDDB Occurrences
CHICO
PARK
BIDWELL
RIVER
Hooper Ch
Great Valley Valley Oak Riparian Forest
Great Valley Mixed Riparian Forest
High Sch
silver-haired bat
pallid bat
CHICO STATE COLLEGE
Creek
Chapmantown
Barber
Diamond Match Factory
BM 206
BM 203
BM 187
BM 183
BM 186
BM 180
Survey Boundary (13.03 ac.)
CNDDB Occurrences
1 mile buffer of Project Site
Project Site derived from 125' buffer of proposed AutoCAD bike path steplan (City of Chico).
CNDDB Occurences provided by CDFG (August 2007)
Chico 7.5' USGS Quad
Map Date: September 13, 2007. Revised: January 21, 2008.
Miles
0
0.25
0.5
GALLAWAY CONSULTING, INC.

Figure 4

**Table 1** Special-Status Biological Resources with a Potential to Occur

| **Common Name** (*Scientific Name*) | **Status** Fed/State/ CNPS | **Associated Habitats** | **Potential for Occurrence*** |
|---|---|---|---|
| SENSITIVE NATURAL COMMUNITIES | | | |
| **Great Valley Mixed Riparian Forest** | __/__/__ | Floodplains, depositional streams of the Great Valley, usually below 500ft. | **Known** to occur within BSA. |
| **Great Valley/Valley Oak Riparian Forest** | __/__/__ | Floodplains, depositional streams of the Great Valley, usually below 500ft | None. Lack of vegetation composition |
| PLANTS | | | |
| **Adobe-lily** *(Fritillaria pluriflora)* | __/__/1B | Chaparral, cismontane woodland, adobe soils in valley and foothill grassland. (Feb-Apr) | None. No suitable habitat occurs in the BSA. |
| **Ahart's paronychia** *(Paronychia ahartii)* | __/__/1B | Cismontane woodland, valley and foothill grassland, and vernal pools. (Mar-Jun) | None. No suitable habitat occurs in the BSA |
| **Brownish beaked-rush** *(Rhynchospora capitellata)* | __/__/2 | Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest, 455-2000 m | None. No suitable habitat occurs in the BSA |
| **Butte County checkerbloom** *(Sidalcea robusta)* | __/__/1B | Chaparral and cismontane woodland. | None. No suitable habitat occurs in the BSA. |
| **Butte County fritillary** *(Fritillaria eastwoodiae)* | __/__/3 | Chaparral, cismontane woodland, lower montane coniferous forest (openings)/sometimes serpentinite | None. No suitable habitat occurs in the BSA. |
| **Butte County golden clover** (*Trifolium jokerstii*) | __/__/1B | Valley and foothill grassland and vernal pools. | None. No suitable habitat occurs in the BSA. |
| **Butte County meadowfoam** *(Limnanthes floccose* ssp. *californica)* | FE/SE/1B | Valley and foothill grassland, vernal pools. (Mar-May) | None. No suitable habitat occurs in the BSA. |
| **Butte County morning-glory** *(Calystegia atriplicifolia* ssp. *Buttensis)* | __/__/1B | Chaparral, lower montane coniferous forest | None. No suitable habitat occurs in the BSA. |
| **California beaked-rush** *(Rhynchospora californica)* | __/__/1B | Bogs and fens, lower montane coniferous forest, meadows and seeps, and marshes and swamps. | Low. Sub-marginal habitat occurs along the creek banks. |
| **California satintail** *(Imperata brevifolia)* | __/__/2 | Chaparral, coastal scrub, mojavean desert scrub, meadows and seeps (alkali), mesic riparian scrub | None. No suitable habitat occurs in the BSA. |
| **Columbian watermeal** *(Woffia brasiliensis)* | __/__/2 | Marshes and swamps | None. No suitable habitat occurs in the BSA |
| **Ferris' milk-vetch** *(Astragalus tener* var. *ferrisiae)* | __/__/1B | Meadows and seeps, subalkaline flats in valley and foothill grassland. (Apr-May) | None. No suitable habitat occurs in the BSA |
| **Flagella-like atractylocarpus** *(Atractylocarpus flagellaceus)* | __/__/2 | Cismontane woodland | None. No suitable habitat occurs in the BSA |
| **Fox sedge** *(Carex vulpinoidea)* | __/__/2 | Marshes and swamps, riparian woodland | Low. Sub-marginal habitat occurs along the creek banks. |
| **Greene's tuctoria** *(Tuctoria greenei)* | FE/SR/1B | Vernal pools. (May-Jul/Sept) | None. No suitable habitat occurs in the BSA |
| **Hairy Orcutt grass** *(Orcuttia pilosa)* | FE/SE/1B | Vernal pools. (May-Sept) | None. No suitable habitat occurs in the BSA. |

| **Common Name** (*Scientific Name*) | **Status** Fed/State/ CNPS | **Associated Habitats** | **Potential for Occurrence*** |
|---|---|---|---|
| **Hoover's spurge** *(Chamaesyce hooveri)* | FT/_/1B | Vernal pools | None. No suitable habitat occurs in the BSA. |
| **Pink creamsacs** *(Castilleja rubicundula* ssp. *rubicundula)* | __/__/1B | Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (serpentine). (Apr-Jun) | None. No suitable habitat occurs in the BSA. |
| **Recurved larkspur** *(Delphinium recurvatum)* | __/__/1B | Chenopod scrub, cismontane woodland, valley and foothill grassland | None. No suitable habitat occurs in the BSA |
| **Red Bluff dwarf rush** *(Juncus leiospermus* var. *leiosperums)* | __/__/1B | Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland and vernal pools/vernally mesic habitats. (Mar-May) | None. No suitable habitat occurs in the BSA |
| **Rose-mallow** *(Hibiscus lasiocarpus)* | __/__/2 | Freshwater marshes and swamps | None. No suitable habitat occurs in the BSA |
| **Round-leaved filaree** *(California macrophylla)* | __/__/1B | Cismontane woodland, valley and foothill grassland (clay) | None. No suitable habitat occurs in the BSA |
| **Slender Orcutt grass** *(Orcuttia tenuis)* | FT/SE/1B | Drying beds of vernal pools and borrow pits. (May-Sep/Oct) | None. No suitable habitat occurs in the BSA |
| **Veiny monardella** *(Monardella douglasii* ssp. *venosa)* | __/__/1B | Cismontane woodlands. Valley and foothill grasslands in heavy clay soils. (May-July) | None. No suitable habitat occurs in the BSA. |
| **White-stemmed clarkia** *(Clarkia gracilis* ssp. *albicaulis)* | __/__/1B | Chaparral and cismontane woodland (sometimes serpentine). | None. No suitable habitat occurs in the BSA. |
| INVERTEBRATES | | | |
| **Conservancy fairy shrimp** *(Branchinecta conservation)* | FE/__/__ | Moderately turbid, deep, cool-water vernal pool | None. No suitable habitat occurs in BSA. |
| **Valley Elderberry Longhorn Beetle** *(Desmocerus californicus dimorphus)* | FT/__/__ | Blue elderberry shrubs usually associated with riparian areas. | **High.** Suitable habitat present. |
| **Vernal pool fairy shrimp** *(Branchinecta lynchi)* | FT/__/__ | Moderately turbid, deep, cool-water vernal pool. | None. No suitable habitat occurs in BSA. |
| **Vernal pool tadpole shrimp** *(Lepidurus packardi)* | FE/__/__ | Vernal pools, swales, and ephemeral freshwater habitat. | None. No suitable habitat occurs in BSA. |
| REPTILES AND AMPHIBIANS | | | |
| **California red-legged frog** *(Rana aurora draytonii)* | FT/__/__ | Inhabits quiet pools of streams, marshes, and occasionally ponds. | None. No suitable habitat occurs in BSA. |
| **Giant garter snake** (*Thamnophis gigas*) | FT/ST/__ | Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. | None. No suitable habitat occurs in BSA. |
| **Northwestern pond turtle** *(Clemmys marmorata marmorata)* | _/CSC/_ | Permanent or nearly permanent aquatic habitats by slow moving waters with abundant aquatic vegetation. | Low. Sub-marginal habitat present within the BSA. |
| **Western spadefoot** *(Spea hammondii)* | _/CSC/_ | Western spadefoot toads breed from January to May in temporary pools. Water temperatures in these pools must be between 48° F and 86° F. | None. No suitable habitat present within the BSA. |
| FISH | | | |

| Common Name (*Scientific Name*) | Status Fed/State/ CNPS | Associated Habitats | Potential for Occurrence* |
|---|---|---|---|
| **Central Valley spring run Chinook salmon** *(Oncorhynchus tshawytscha)* | FT/ST/__ | Sacramento and San Joaquin Rivers and their tributaries. | **High** Big Chico Creek known to have remnant populations. |
| **Central Valley steelhead** *(Oncorhynchus mykiss)* | FT/ST/__ | Sacramento and San Joaquin Rivers and their tributaries. | **High.** Big Chico Creek known to have remnant populations. |
| **Delta smelt** *(Hypomesus transpacificus)* | FT/__/__ | Sacramento-San Joaquin Estuary | None. No suitable habitat occurs in BSA. |
| **Green sturgeon** *(Acipenser medirostris)* | FT/CSC/_ | Sturgeons enter freshwaters to spawn. The only recently-documented green sturgeon spawning locations are in the Klamath, Sacramento, and Rogue rivers along the west coast of North America. | None. No suitable habitat occurs in BSA. |
| MAMMALS | | | |
| **American Badger** *(Taxidea taxus)* | _/CSC/_ | Grasslands, savannahs, and mountain meadows with friable soils. | None. No suitable habitat occurs in BSA. |
| **Pallid bat** *(Antrozous pallidus)* | _/CSC/_ | Crevices, caves, attics, under the eaves of roofs, behind signs and in the hollow of trees. | Low. CNDDB occurrence within 1-mile. Suitable foraging habitat and sub-marginal roosting habitat. |
| **Silver-haired bat** *(Lasionycteris noctivagans)* | _/CSC/_ | Coniferous and/or mixed deciduous forests adjacent to ponds or other sources of water. | Low. Sub-marginal foraging and roosting habitat. |
| **Western mastiff bat** *(Eumops perotis californicus)* | __/CSC/_ | Common species of low elevations in California. Crevices in steep cliff face or in the roof eaves of buildings of two or more stories (needs vertical faces to take flight), prefers open areas for foraging. | Low. No suitable roosting sites in BSA. |
| BIRDS | | | |
| **Bald eagle** *(Haliaeetus leucocephalus)* | FT/SE/__ | Lakes, rivers, estuaries, reservoirs and some coastal habitats. | None. No suitable nesting habitat and sub-marginal foraging habitat present within the BSA. |
| **Bank swallow** *(Riparia riparia)* | __/ST/__ | Require sandy vertical bluffs or riverbanks for nesting | None. No suitable nesting habitat. |
| **Burrowing owl** *(Athene cunicularia)* | _/CSC/_ | Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. | None. No suitable habitat occurs in BSA. |
| **Osprey** *(Pandion haliaetus)* | _/CSC/_ | Wetland, open water. | None. No suitable nesting habitat and sub-marginal foraging habitat present within the BSA. |
| **Swainson's hawk** *(Buteo swainsoni)* | MBTA/ST /__ | Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat including grasslands or suitable grain or alfalfa fields, or livestock pastures. | Low. No suitable foraging habitat and sub-marginal nesting habitat. |
| **Tricolored blackbird** *(Agelaius tricolor)* | _/CSC/_ | Nests in dense blackberry, cattail, tule, willow, or wild rose within emergent wetlands throughout the Central Valley and foothills surrounding the valley | None. No suitable habitat present within the BSA. |

| Common Name (*Scientific Name*) | Status Fed/State/ CNPS | Associated Habitats | Potential for Occurrence* |
|---|---|---|---|
| **Western yellow-billed cuckoo** *(Coccyzus americanus occidentalis)* | FC/SE/__ | Structured dense riparian forests, generally willows. | Low. Sub-marginal habitat present within the BSA. |
| **Other raptors (hawks, falcons, owls, vultures)** | MBTA/ §3503.5 CDFG/-- | Nest in a variety of habitats including woodland, coniferous forest, chaparral, montane meadow, riparian and urban. | **High.** Suitable foraging and nesting habitat. |

CODE DESIGNATIONS

**FE** = Federally-listed Endangered
**FT** = Federally-listed Threatened
**FC** = Federal Candidate Species
**BCC** = Federal Bird of Conservation Concern
**MBTA** = protected by the federal Migratory Bird Treaty Act

**SE** = State-listed Endangered
**ST** = State-listed Threatened
**SR** = State-listed Rare

**CSC** = CDFG Species of Special Concern
**FP** = CDFG Fully Protected Species
**SNC**= CDFG Sensitive Natural Community

**CNPS 1B** = Rare or Endangered in California or elsewhere
**CNPS 2** = rare or Endangered in California, more common elsewhere
**CNPS 3** = More information is needed
**CNPS 4** = Plants with limited distribution

***Potential for occurrence:** for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, over-winter, or stop-over in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential for occurrence. The categories for the potential for occurrence include:

None: The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack of suitable habitat, and/or the BSA is well outside of the known distribution of the species.

Low: Potential habitat in the BSA is sub-marginal and the species is not known to occur in the vicinity of the BSA. Protocol-level surveys are not recommended.

Moderate: Suitable habitat is present in the BSA and the species is known to occur in the vicinity of the BSA.

High: Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed.

Known: Species was detected in the BSA or a recent reliable record exists for the BSA.

**Table 2** Elderberry Shrubs, Clusters and Exit Holes

| *Elderberry Bushes* | | | | | |
|---|---|---|---|---|---|
| **Label** | **DBH 1"- 3"** | **DBH 3"- 5"** | **DBH >5"** | **Exit Hole** | **Riparian** |
| EB01 | 1 | 1 | 1 | No | Yes |
| EB02 | 1 | 1 | 1 | Yes | Yes |
| EB03 | 1 | 0 | 0 | No | Yes |
| EB04 | 0 | 1 | 1 | No | Yes |
| EB05 | 0 | 0 | 1 | No | Yes |
| EB06 | 1 | 0 | 0 | No | Yes |
| EB07 | 2 | 1 | 0 | No | Yes |
| EB08 | 0 | 4 | 0 | No | Yes |
| EB09 | 2 | 0 | 0 | No | Yes |
| EB11 | 3 | 0 | 0 | Yes | Yes |
| EB12 | 1 | 0 | 0 | No | Yes |
| EB13 | 1 | 0 | 1 | No | Yes |
| EB14 | 2 | 2 | 3 | No | Yes |
| EB17 | 3 | 0 | 0 | No | Yes |
| EB18 | 0 | 3 | 1 | Yes | Yes |
| EB19 | 3 | 2 | 3 | Yes | Yes |
| EB20 | 1 | 3 | 0 | Yes | Yes |
| EB21 | 1 | 0 | 0 | No | Yes |
| EB22 | 0 | 0 | 0 | No | Yes |
| EB23 | 0 | 1 | 0 | Yes | Yes |

| *Elderberry Clusters* | | | | | |
|---|---|---|---|---|---|
| **Label** | **DBH 1"- 3"** | **DBH 3"- 5"** | **DBH >5"** | **Exit Hole** | **Riparian** |
| CL02 | 8 | 3 | 6 | Yes | Yes |
| CL04 | 3 | 3 | 2 | No | Yes |
| CL05 | 4 | 2 | 0 | No | Yes |
| CL06 | 6 | 7 | 1 | No | Yes |
| CL01 | 6 | 1 | 1 | No | Yes |
| CL03 | 3 | 3 | 6 | No | Yes |

### *3.5.3 Fish*

*Central Valley Spring-Run Chinook Salmon*

Big Chico Creek is within designated Critical Habitat for spring-run Chinook salmon, as identified in the Federal Register. The National Oceanic and Atmospheric Administration (NOAA) maintains jurisdiction over listed anadromous fish per §7 of the ESA.

The spring-run was historically the second most abundant run of Central Valley Chinook salmon (Fisher 1994). Adults returning to spawn ascended the tributaries of the upper Sacramento River, including the Pit, McCloud, and Little Sacramento Rivers. Cottonwood, Battle, Antelope, Mill, Deer, Stony, Big Chico and Butte Creeks and the Feather, Yuba, American, Mokelumne, Stanislaus, Tuolumne, Merced, San Joaquin, and Kings Rivers were also occupied by the species. Spring-run Chinook salmon migrated into headwater streams where cool, well-oxygenated water is available year-round. Surveys indicate that remnant, non-sustaining spring-run Chinook salmon populations may be found in Cottonwood, Battle, Antelope, and Big Chico Creeks (Yoshiyama *et al.* 1996). More sizeable, consistent runs of naturally-produced fish are found in Mill, Deer and Butte Creeks.

Spring-run Chinook salmon enter the river system in late February through June. They hold in the deeper pools of Big Chico Creek until late September or October when they spawn in fast moving riffles. Spring–run Chinook have the potential for occurrence in proximity to the BSA during migration to spawning grounds in March-September, with peak migration occurring in May-June. Juvenile spring-run Chinook also have the potential of occurrence in proximity to the BSA during November-March while emigrating to the Delta (Yoshiyama *et al.* 1996).

*Central Valley Steelhead*

Big Chico Creek is within designated Critical Habitat for Central Valley steelhead, as identified in the Federal Register. The National Oceanic and Atmospheric Administration (NOAA) maintains jurisdiction over listed anadromous fish per §7 of the ESA.

In North America, steelhead are found in Pacific drainages from southern California to Alaska. In California, steelhead are known to occur in coastal streams from Malibu Creek in Los Angeles County to the Smith River near the Oregon border, and in the Sacramento and San Joaquin river systems (McEwan 2004). Central Valley steelhead enter the river system in late August to September and spawn in fast moving riffles in the winter. Spawning habitat for steelhead and salmon occurs well upstream from the BSA, however, juvenile fish may be found throughout Big Chico Creek year-round (Yoshiyama *et al.* 1996).

### *3.5.4 Mammals*

*Pallid Bat*

The pallid bat is a rather large, pale, yellowish-brown bat with long prominent ears, a blunt snout, and pinkish-brown or gray wing and tail membranes. The species is identified by the CDFG as a Species of Special Concern. Pallid bats tend to roost alone or in small groups and are known to use day and night roosts in crevices of rocky outcrops and cliffs, caves, mines, trees (bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various man-made structures such as bridges and buildings. It is most abundant in dry, open areas with rock outcroppings, which serve as roosts.

The pallid bat primarily preys on a variety of arthropods, grasshoppers, crickets, beetles, moths, occasionally small reptiles and rodents, and has developed a mechanism to prey upon scorpions. It is unique in that it forages extensively on the ground, while other local species tend to forage on the wing. This species of bat is very vulnerable to disturbance that many times results in mass displacement of the species.

*Silver-Haired Bat*
This species does not appear on the CDFG Species of Special Concern list as of the October 2007 update to the *Special Animals List*. However, the species is identified in the CNDDB, which was updated in September of 2007, as a Species of Special Concern. Regardless, the Silver-haired bat would have a low potential for occurrence within the BSA, which provides sub-marginal roosting and foraging habitat for this species.

### *3.5.5 Birds*

*Raptors and Migratory Birds*
Raptors in the orders Falconiformes (hawks, eagles, and falcons) and Strigiforms (owls) are protected in varying degrees under California Fish and Game Code, §3503.5, the Migratory Bird Treaty Act, and CEQA. A red-shouldered hawk was observed perched in an oak tree within the BSA during field surveys. The BSA currently provides suitable nesting and/or foraging habitat for several special-status raptor and/or migratory bird species. Therefore, the proposed action has the potential to impact nesting special-status birds. Direct take of active nests, eggs, or birds is prohibited by CDFG and measures must be taken to minimize disturbance.

A qualified biologist should conduct a pre-construction raptor survey during April-May, or no more than 30 days prior to construction activities, to determine the presence/absence of nesting raptors in the BSA. Should nesting special-status species be observed, appropriate spatial and temporal buffers will be required by CDFG.

## 4.0 REGULATORY FRAMEWORK

The following describes local, state and federal laws and policies that may be relevant to the project's review process relative to biological resources.

### 4.1 Federal Endangered Species Act

The United States Congress passed the federal ESA in 1973 to protect those species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either "endangered" or "threatened." An endangered species is considered in danger of extinction throughout all or a significant portion of its range. A threatened species is considered likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are eligible for listing as endangered or threatened. The USFWS

also maintains a list of "candidate" species. These are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. Proposed species are those that have been proposed for listing, but have not yet been listed. The ESA makes it unlawful to "take" a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct". Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

*Valley Elderberry Longhorn Beetle*

Elderberry bushes impacted as a result of the project may require mitigation consistent with the *1999 USFWS Conservation Guidelines for Valley Elderberry Longhorn Beetle (Guidelines).* According to these guidelines, complete avoidance (i.e., no adverse effects) may be assumed when a 100-foot buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. As a protective measure, all bushes within the project area should be fenced during the course of construction and clean up to prevent disturbance. If encroachment within the 100-foott elderberry shrub buffer is expected, the USFWS must be contacted either by means of a Technical Assistance Letter or the §7 ESA consultation process.

*Central Valley Steelhead and Central Valley Spring-Run Chinook Salmon*

NOAA Fisheries Preliminary Design Criteria for Small Bank Protection Projects may apply towards Annie's Glen Pedestrian Facility Project. The Design Criteria include:

**I. New Bank Protection**

A. Above ordinary high water mark:

1. Project should be designed to meet the dual objectives of protecting and maintaining project infrastructure, and protecting and creating in stream and nearshore habitat conditions that are beneficial to anadromous salmonids.
2. If rock is used, apply the smallest size required to achieve desired bank protection.
3. Mix soil into stabilization rock.
4. Removal of vegetation is minimized to the maximum extent possible.
5. If site conditions permit, plant grass or woody vegetation and encourage growth of vegetation types that do not have an adverse effect on levee stability and levee inspections.

B. Below ordinary high water mark:

1. Project should be designed to meet the dual objectives of protecting and maintaining project infrastructure, and protecting and creating in stream and nearshore habitat conditions that are beneficial to anadromous salmonids.
2. Site design will be limited to engineering and hydraulic constraints, but will incorporate biotechnical practices to create and support a periodically inundated, vegetated floodplain with a mosaic of SRA cover, and in stream woody material.
3. Use of rock should be minimized. Rock size should be minimized to achieve bank

protection goals while minimizing predator habitat. Rock placement should designed to create near-shore, shallow-water habitat through the construction of berms or other simulated floodplain habitats that are seasonally inundated and capable of supporting riparian vegetation.

4. Rock berms and stabilized banks should be planted with, on average, 1 willow or other native tree or plant that is appropriate for the local site conditions, per square meter of bank protection.
5. Removal of in stream woody material is avoided or minimized. If removal is required to safely access or construct erosion repair project, then a similar woody material will be replaced onsite and in-kind.
6. Removal of vegetation is minimized to the maximum extent possible. If removal is required for access, replace onsite to achieve 1:1 successful revegetation. To achieve successful 1:1 revegetation, trees removed can be planted at 3:1, or site can be monitored for 2 years and replanted until 1:1 is reached.

**II. Additional Provisions**

A. Construct projects during periods of the year when anadromous fish species are not likely to be present within the action area.
B. Check heavy equipment daily for leaks. Do not use equipment until leaks are fixed.
C. Refuel outside active stream channel, above ordinary high water at designated sites.
D. Follow spill prevention and control plan developed specifically for the project.
E. Petroleum products, chemicals, cement, or water contaminated with the aforementioned materials shall not be allowed to enter flowing waters.
F. No work during wet weather or when saturated grounds exist.
G. Locate staging areas outside of active stream channel or above ordinary high water at designated sites.
H. Develop an implementation, and effectiveness monitoring plan.

If potential impacts to water quality are anticipated, additional measures may be required.

### 4.2 California Endangered Species Act

The CESA is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFG when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, "species of special concern" receive consideration by CDFG. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

The Central Valley steelhead and Central Valley spring-run Chinook salmon are listed at the state level per the CESA. Thus, in addition to the requisite NOAA consultation per §7 of the ESA, the project may require additional consultation with the CDFG relative to anadromous fish. As expected, the regulatory agencies' ESA performance standards typically result in CESA compliance through functional equivalence.

## 4.3 Migratory Bird Treaty Act

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 CFR §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g. spatial or temporal buffers) must be implemented.

## 4.4 California Fish and Game Code

### *4.4.1 Fish and Game Code §3503.5*

Fish and Game Code §3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* (hawks, eagles, and falcons) or *Strigiformes* (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto".

### *4.4.2 Fish and Game Code §1600 et seq.*

The CDFG is a trustee agency that has jurisdiction under the CFGC (§1600 *et seq.*). The CFGC (§1602), requires that a state or local government agency, public utility, or private entity must notify CDFG if a proposed project will

> *...substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds... except when the department has been notified pursuant to Section 1601.*

If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFG identifying the approved activities and associated mitigation measures.

### *4.4.3 Fish and Game Code §1900-1913*

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2001). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The CNPS listings categorize plants as follows:

- List 1A: Presumed extinct in California;
- List 1B: Rare, threatened, or endangered in California or elsewhere;
- List 2: Rare, threatened, or endangered in California, but more numerous elsewhere;
- List 3: About which we need more information; and
- List 4: Of limited distribution.

The California Native Plant Protection Act (§1900-1913) prohibits the taking, possessing, or sale within the state of any plants designated rare, threatened, or endangered as defined by CDFG. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFG and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and game Code §1913 exempts from the 'take' prohibition *the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way*

## 4.5 CEQA

### *4.5.1 CEQA Guidelines §15380(d)*

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFG (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

### *4.5.2 Great Valley Mixed Riparian Forest*

A large area of great valley mixed riparian forest occurs within the BSA. This habitat is identified as a sensitive natural community by CDFG; therefore, the applicant should consult with CDFG, prior to construction, if this habitat will be impacted. Disturbance to existing riparian habitat on-site should be avoided to the greatest extent possible through the implementation of setbacks of enough area to adequately protect the resource (50 feet from edge). Where complete avoidance is not feasible, disturbance of riparian forest should be minimized. Fencing and protective measures should be installed to inform construction workers, or other persons, of the presence of sensitive biological resources. Impacts to this resource would be considered significant under CEQA because riparian habitat is considered a sensitive natural community as it provides important habitat for a large variety of common and special-status wildlife species.

## 4.6 Clean Water Act

The USACE and the EPA regulate the discharge of dredged or fill material into jurisdictional Waters of the United States, under the Clean Water Act (§404). The term "Waters of the United

States" is an encompassing term that includes "wetlands" and "Other Waters". Wetlands have been defined for regulatory purposes as follows: "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas." Other Waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

Big Chico Creek is a Water of the US, under the jurisdiction of the USACE. The riparian habitat that occurs adjacent to the channel of Big Chico Creek may qualify as riparian wetland, which is also subject to USACE jurisdiction under Section 404 of the Clean Water Act. Any fill activities in these areas may require a permit from the USACE.

#### *4.6.1 Clean Water Act §404*

The USACE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each nationwide permit.

#### *4.6.2 Clean Water Act §401*

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality.

#### *4.6.3 Clean Water Act §402*

The discharge requirements of the RWQCB are used as criteria in granting National Pollution Discharge Elimination System (NPDES) permits or waivers. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

### 4.7 Other Potentially Applicable Regulations and Policies

*City of Chico Best Practices Technical Manual: Standard Mitigation and Monitoring Programs*
The City's BPTM contains a series of Standard Mitigation and Monitoring Programs that are likely applicable to the BSA. These programs are standard conditions of approval for relevant projects proposed in the City's jurisdiction. Section III of the BPTM (Biological Resources) contains multiple policies that would likely apply to the Annie's Glen Bicycle and Pedestrian Facilities Project.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Numerous blue elderberry shrubs, the sole host plant for the federally threatened valley elderberry longhorn beetle (VELB) were identified within the site's riparian corridor. A Technical Assistance letter should be prepared for the USFWS concerning avoidance measures of the elderberry shrubs within the required 100 ft buffer. Consultation with the USFWS per §7 of the ESA can be implemented as an alternative to Technical Assistance.

If impacts to Big Chico Creek are expected to occur, a delineation of Waters of the U.S. should be prepared and submitted to the USACE for verification. Pursuant to §404 of the CWA, the USACE may require permit acquisition prior to construction. The §404 permit would require §401 water quality certification from the RWQCB. Additionally, the RWQCB may require acquisition of an NPDES permit per §402 of the CWA if the project would disturb greater than one acre..

If potential impacts are expected to occur, NOAA should be contacted concerning Big Chico Creek's remnant populations of Central Valley steelhead and spring-run Chinook salmon. The BSA is within designated Critical Habitat for these species. The review process conducted by NOAA would most likely occur under §7 of the ESA. Project approval is generally granted by way of Incidental Take permits or the Technical Assistance process.

Annie's Glen Bicycle & Pedestrian Facilities Project is located along a portion of Big Chico Creek in Chico, California. The BSA contains great valley mixed riparian forest, which has been designated as a CDFG sensitive natural community. Therefore, consultation should be initiated with CDFG, prior to construction, if this habitat will be impacted.

A CDFG Streambed Alteration Agreement should be obtained for altering the bank of Big Chico Creek to place a pedestrian bridge over the creek. The agreement would also be required if the project proposes to remove any riparian vegetation under CDFG jurisdiction. To ensure protection of the creek, CDFG may propose reasonable measures for the applicant to implement.

The BSA provides suitable foraging habitat and sub-marginal roosting sites for the pallid bat. While unlikely, if pallid bat maternity roosts are detected during pre-construction raptor surveys, a qualified bat biologist should install exclusionary measures. These measures would be installed prior to, or after, the rearing season (April-August) to prevent unnecessary disturbances to the maternity roosts.

Due to the presence of suitable nesting and foraging habitat for raptors and other birds protected under the Migratory Bird Treaty Act (MBTA) and the CDFG (Fish and Game Code sections 2080 and 3500), pre-construction raptor surveys should be conducted April-May, or within 30 days, prior to construction activities, to determine if nesting raptors occur in, or in close proximity to the BSA. Should nesting raptors be observed, appropriate mitigation or avoidance measures will be required.

## 6.0 REFERENCES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# Appendix A

USFWS Species List

# Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species
that Occur in or may be Affected by Projects in the
CHICO (577A)
U.S.G.S. 7 1/2 Minute Quad

Database Last Updated: August 16, 2007

Document Number: 070911115727

**Species of Concern** - The Sacramento Fish & Wildlife Office no longer maintaina a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

**Red-Legged Frog Critical Habitat** - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our map index.

## Listed Species

### *Invertebrates*

*Branchinecta conservatio*

Conservancy fairy shrimp (E)

*Branchinecta lynchi*

Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

*Desmocerus californicus dimorphus*

valley elderberry longhorn beetle (T)

*Lepidurus packardi*

Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

### *Fish*

*Hypomesus transpacificus*

delta smelt (T)

*Oncorhynchus mykiss*

Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

*Oncorhynchus tshawytscha*

Central Valley spring-run chinook salmon (T) (NMFS)

Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

### *Amphibians*

*Rana aurora draytonii*

California red-legged frog (T)

### *Reptiles*

*Thamnophis gigas*

giant garter snake (T)

### *Plants*

*Limnanthes floccosa ssp. californica*

Butte County (Shippee) meadowfoam (E)
Critical habitat, Butte County (Shippee) meadowfoam (X)

## Candidate Species

### *Birds*

*Coccyzus americanus occidentalis*

Western yellow-billed cuckoo (C)

**Key:**

- (E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.
- *Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (X) *Critical Habitat* designated for this species

## Important Information About Your Species List

### How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regard-less of whether they appear on a quad list.

## Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

## Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

## Your Responsibilities Under the Endangered Species Act

All plants and animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

## Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compen-sates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our critical habitat page for maps.

## Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

## Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

## Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 10, 2007.

# Appendix B

CNDDB Species List

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name -Chico, Nord, Richardson Springs, Hamlin Canyon, Shippee, Paradise West, Ord Ferry, Liano Seco, Nelson

| | Scientific Name/Common Name | Element Code | Federal Status | State Status | GRank | SRank | CDFG or CNPS |
|---|---|---|---|---|---|---|---|
| 1 | ***Actinemys marmorata marmorata***<br>northwestern pond turtle | ARAAD02031 | | | G3G4T3 | S3 | SC |
| 2 | ***Agelaius tricolor***<br>tricolored blackbird | ABPBXB0020 | | | G2G3 | S2 | SC |
| 3 | ***Anthicus antiochensis***<br>Antioch Dunes anthicid beetle | IICOL49020 | | | G1 | S1 | |
| 4 | ***Anthicus sacramento***<br>Sacramento anthicid beetle | IICOL49010 | | | G1 | S1 | |
| 5 | ***Antrozous pallidus***<br>pallid bat | AMACC10010 | | | G5 | S3 | SC |
| 6 | ***Ardea alba***<br>great egret | ABNGA04040 | | | G5 | S4 | |
| 7 | ***Ardea herodias***<br>great blue heron | ABNGA04010 | | | G5 | S4 | |
| 8 | ***Astragalus tener var. ferrisiae***<br>Ferris' milk-vetch | PDFAB0F8R3 | | | G1T1 | S1.1 | 1B.1 |
| 9 | ***Athene cunicularia***<br>burrowing owl | ABNSB10010 | | | G4 | S2 | SC |
| 10 | ***Atractylocarpus flagellaceus***<br>flagella-like atractylocarpus | NBMUS84010 | | | G5 | S1.2 | 2.2 |
| 11 | ***Branchinecta conservatio***<br>Conservancy fairy shrimp | ICBRA03010 | Endangered | | G1 | S1 | |
| 12 | ***Branchinecta lynchi***<br>vernal pool fairy shrimp | ICBRA03030 | Threatened | | G3 | S2S3 | |
| 13 | ***Buteo swainsoni***<br>Swainson's hawk | ABNKC19070 | | Threatened | G5 | S2 | |
| 14 | ***California macrophyllum***<br>round-leaved filaree | PDGER01070 | | | G3 | S3.1 | 1B.1 |
| 15 | ***Calystegia atriplicifolia ssp. buttensis***<br>Butte County morning-glory | PDCON04012 | | | G5T3 | S3.2 | 1B.2 |
| 16 | ***Carex vulpinoidea***<br>fox sedge | PMCYP03EN0 | | | G5 | S2.2 | 2.2 |
| 17 | ***Castilleja rubicundula ssp. rubicundula***<br>pink creamsacs | PDSCR0D482 | | | G5T2 | S2.2 | 1B.2 |
| 18 | ***Chamaesyce hooveri***<br>Hoover's spurge | PDEUP0D150 | Threatened | | G2 | S2.1 | 1B.2 |
| 19 | ***Clarkia gracilis ssp. albicaulis***<br>white-stemmed clarkia | PDONA050J1 | | | G5T2 | S2.2? | 1B.2 |
| 20 | ***Coastal and Valley Freshwater Marsh*** | CTT52410CA | | | G3 | S2.1 | |
| 21 | ***Coccyzus americanus occidentalis***<br>western yellow-billed cuckoo | ABNRB02022 | Candidate | Endangered | G5T2 | S1 | |
| 22 | ***Delphinium recurvatum***<br>recurved larkspur | PDRAN0B1J0 | | | G2 | S2.2 | 1B.2 |
| 23 | ***Dendroica petechia brewsteri***<br>yellow warbler | ABPBX03018 | | | G5T3? | S2 | SC |
| 24 | ***Desmocerus californicus dimorphus***<br>valley elderberry longhorn beetle | IICOL48011 | Threatened | | G3T2 | S2 | |

| | Scientific Name/Common Name | Element Code | Federal Status | State Status | GRank | SRank | CDFG or CNPS |
|---|---|---|---|---|---|---|---|
| 25 | ***Eumops perotis californicus***<br>western mastiff bat | AMACD02011 | | | G5T4 | S3? | SC |
| 26 | ***Falco peregrinus anatum***<br>American peregrine falcon | ABNKD06071 | Delisted | Endangered | G4T3 | S2 | |
| 27 | ***Fritillaria eastwoodiae***<br>Butte County fritillary | PMLIL0V060 | | | G3Q | S3.2 | 3.2 |
| 28 | ***Fritillaria pluriflora***<br>adobe-lily | PMLIL0V0F0 | | | G2 | S2.2 | 1B.2 |
| 29 | ***Great Valley Cottonwood Riparian Forest*** | CTT61410CA | | | G2 | S2.1 | |
| 30 | ***Great Valley Mixed Riparian Forest*** | CTT61420CA | | | G2 | S2.2 | |
| 31 | ***Great Valley Valley Oak Riparian Forest*** | CTT61430CA | | | G1 | S1.1 | |
| 32 | ***Great Valley Willow Scrub*** | CTT63410CA | | | G3 | S3.2 | |
| 33 | ***Haliaeetus leucocephalus***<br>bald eagle | ABNKC10010 | Delisted | Endangered | G5 | S2 | |
| 34 | ***Hibiscus lasiocarpus***<br>rose-mallow | PDMAL0H0Q0 | | | G4 | S2.2 | 2.2 |
| 35 | ***Imperata brevifolia***<br>California satintail | PMPOA3D020 | | | G2 | S2.1 | 2.1 |
| 36 | ***Juncus leiospermus var. leiospermus***<br>Red Bluff dwarf rush | PMJUN011L2 | | | G2T2 | S2.2 | 1B.1 |
| 37 | ***Lanius ludovicianus***<br>loggerhead shrike | ABPBR01030 | | | G4 | S4 | SC |
| 38 | ***Lasionycteris noctivagans***<br>silver-haired bat | AMACC02010 | | | G5 | S3S4 | SC |
| 39 | ***Lasiurus blossevillii***<br>western red bat | AMACC05060 | | | G5 | SNR | |
| 40 | ***Lasiurus cinereus***<br>hoary bat | AMACC05030 | | | G5 | S4? | SC |
| 41 | ***Lepidurus packardi***<br>vernal pool tadpole shrimp | ICBRA10010 | Endangered | | G3 | S2S3 | |
| 42 | ***Limnanthes floccosa ssp. californica***<br>Butte County meadowfoam | PDLIM02042 | Endangered | Endangered | G4T1 | S1.1 | 1B.1 |
| 43 | ***Linderiella occidentalis***<br>California linderiella | ICBRA06010 | | | G3 | S2S3 | |
| 44 | ***Monardella douglasii ssp. venosa***<br>veiny monardella | PDLAM18082 | | | G5T1 | S1.1 | 1B.1 |
| 45 | ***Myotis yumanensis***<br>Yuma myotis | AMACC01020 | | | G5 | S4? | |
| 46 | ***Northern Basalt Flow Vernal Pool*** | CTT44131CA | | | G3 | S2.2 | |
| 47 | ***Northern Hardpan Vernal Pool*** | CTT44110CA | | | G3 | S3.1 | |
| 48 | ***Northern Volcanic Mud Flow Vernal Pool*** | CTT44132CA | | | G1 | S1.1 | |
| 49 | ***Oncorhynchus tshawytscha spring-run***<br>spring-run chinook salmon | AFCHA0205A | Threatened | Threatened | G5T1Q | S1 | |
| 50 | ***Orcuttia pilosa***<br>hairy orcutt grass | PMPOA4G040 | Endangered | Endangered | G2 | S2.1 | 1B.1 |

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name -Chico, Nord, Richardson Springs, Hamlin Canyon, Shippee, Paradise West, Ord Ferry, Llano Seco, Nelson

| | Scientific Name/Common Name | Element Code | Federal Status | State Status | GRank | SRank | CDFG or CNPS |
|---|---|---|---|---|---|---|---|
| 51 | ***Pandion haliaetus***<br>osprey | ABNKC01010 | | | G5 | S3 | SC |
| 52 | ***Paronychia ahartii***<br>Ahart's paronychia | PDCAR0L0V0 | | | G2 | S2.1 | 1B.1 |
| 53 | ***Phrynosoma coronatum (frontale population)***<br>Coast (California) horned lizard | ARACF12022 | | | G4G5 | S3S4 | SC |
| 54 | ***Rhynchospora californica***<br>California beaked-rush | PMCYP0N060 | | | G1 | S1.1 | 1B.1 |
| 55 | ***Rhynchospora capitellata***<br>brownish beaked-rush | PMCYP0N080 | | | G5 | S2S3 | 2.2 |
| 56 | ***Riparia riparia***<br>bank swallow | ABPAU08010 | | Threatened | G5 | S2S3 | |
| 57 | ***Sidalcea robusta***<br>Butte County checkerbloom | PDMAL110P0 | | | G2 | S2.2 | 1B.2 |
| 58 | ***Spea hammondii***<br>western spadefoot | AAABF02020 | | | G3 | S3 | SC |
| 59 | ***Taxidea taxus***<br>American badger | AMAJF04010 | | | G5 | S4 | SC |
| 60 | ***Thamnophis gigas***<br>giant garter snake | ARADB36150 | Threatened | Threatened | G2G3 | S2S3 | |
| 61 | ***Trifolium jokerstii***<br>Butte County golden clover | PDFAB40310 | | | G1 | S1.2 | 1B.2 |
| 62 | ***Tuctoria greenei***<br>Greene's tuctoria | PMPOA6N010 | Endangered | Rare | G2 | S2.2 | 1B.1 |
| 63 | ***Wolffia brasiliensis***<br>Columbian watermeal | PMLEM03020 | | | G5 | S1.3 | 2.3 |

# Appendix C

CNPS Species List

# Inventory of Rare and Endangered Plants

v7-07c 7-09-07

**Status:** search results - Tue, Sep. 11, 2007 10:49 c

{QUADS_123} =~ m/577A|593C|593D|576B|576C|592C|577B|577C Search

**Tip:** +DNT Jun Jul returns Del Norte taxa with those blooming both months listed first.[all tips and help.][search history]

**Your Quad Selection:** Chico (577A) 3912167, Nord (593C) 3912178, Richardson Springs (593D) 3912177, Hamlin Canyon (576B) 3912166, Shippee (576C) 3912156, Paradise West (592C) 3912176, Ord Ferry (577B) 3912168, Llano Seco (577C) 3912158, Nelson (577D) 3912157

**Hits 1 to 24 of 24**

**Requests that specify topo quads will return only Lists 1-3.**

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

| open | save | hits | scientific | common | family | CNPS |
|---|---|---|---|---|---|---|
| | | 1 | Astragalus tener var. ferrisiae | Ferris' milk-vetch | Fabaceae | List 1B.1 |
| | | 1 | Atractylocarpus flagellaceus | flagella-like atractylocarpus | Dicranaceae | List 2.2 |
| | | 1 | California macrophylla | round-leaved filaree | Geraniaceae | List 1B.1 |
| | | 1 | Calystegia atriplicifolia ssp. buttensis | Butte County morning-glory | Convolvulaceae | List 1B.2 |
| | | 1 | Carex vulpinoidea | fox sedge | Cyperaceae | List 2.2 |
| | | 1 | Castilleja rubicundula ssp. rubicundula | pink creamsacs | Scrophulariaceae | List 1B.2 |
| | | 1 | Chamaesyce hooveri | Hoover's spurge | Euphorbiaceae | List 1B.2 |
| | | 1 | Clarkia gracilis ssp. albicaulis | white-stemmed clarkia | Onagraceae | List 1B.2 |
| | | 1 | Delphinium recurvatum | recurved larkspur | Ranunculaceae | List 1B.2 |
| | | 1 | Fritillaria eastwoodiae | Butte County fritillary | Liliaceae | List 3.2 |
| | | 1 | Fritillaria pluriflora | adobe-lily | Liliaceae | List 1B.2 |
| | | 1 | Hibiscus lasiocarpus | rose-mallow | Malvaceae | List 2.2 |
| | | 1 | Imperata brevifolia | California satintail | Poaceae | List 2.1 |
| | | 1 | Juncus leiospermus var. leiospermus | Red Bluff dwarf rush | Juncaceae | List 1B.1 |
| | | 1 | Limnanthes floccosa ssp. californica | Butte County meadowfoam | Limnanthaceae | List 1B.1 |
| | | 1 | Monardella douglasii ssp. venosa | veiny monardella | Lamiaceae | List 1B.1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ☐ | 1 | **Orcuttia pilosa** | hairy Orcutt grass | Poaceae | List 1B.1 |
| | ☐ | 1 | **Paronychia ahartii** | Ahart's paronychia | Caryophyllaceae | List 1B.1 |
| | ☐ | 1 | **Rhynchospora californica** | California beaked-rush | Cyperaceae | List 1B.1 |
| | ☐ | 1 | **Rhynchospora capitellata** | brownish beaked-rush | Cyperaceae | List 2.2 |
| | ☐ | 1 | **Sidalcea robusta** | Butte County checkerbloom | Malvaceae | List 1B.2 |
| | ☐ | 1 | **Trifolium jokerstii** | Butte County golden clover | Fabaceae | List 1B.2 |
| | ☐ | 1 | **Tuctoria greenei** | Greene's tuctoria | Poaceae | List 1B.1 |
| | ☐ | 1 | **Wolffia brasiliensis** | Columbian watermeal | Lemnaceae | List 2.3 |

To save selected records for later study, click the ADD button.
ADD checked items to Plant Press | check all | check none
Selections will appear in a new window.

No more hits.

# Appendix D

Species Observed in the BSA

| Wildlife Observed in Annie's Glen Bicycle & Pedestrian Facility | |
|---|---|
| **Common Name** | **Scientific Name** |
| American crow | *Corvus brachyrhynchos* |
| Anna's hummingbird | *Calypte anna* |
| European starling | *Sturnus vulgaris* |
| Gray squirrel | *Sciurus griseus* |
| Northern flicker | *Colaptes auratus* |
| Nuttall's woodpecker | *Picoides nuttallii* |
| Red-shouldered hawk | *Buteo lineatus* |
| Scrub jay | *Aphelocoma coerulescens* |
| White breasted nuthatch | *Sitta carolinensis* |

| Plants Observed in Annie's Glen Bicycle & Pedestrian Facility | |
|---|---|
| **Common Name** | **Scientific Name** |
| White alder | *Alnus rhombifolia* |
| Ash | *Fraxinus spp.* |
| Bay laurel | *Umbellularia californica* |
| Bedstraw | *Gallium ssp.* |
| Black walnut | *Juglans nigra* |
| Blue elderberry | *Sambucus mexicana* |
| Blue oak | *Quercus lobata* |
| Bristle grass | *Setaria ssp.* |
| Brome | *Bromus diandrus* |
| Buckthorn | *Rhamnus spp.* |
| Button willow | *Cephalanthus occidentalis* |
| California blackberry | *Rubus ursinus* |
| Catalpa | *Catalpa speciosa* |
| Clover | *Trifolium ssp.* |
| Cocklebur | *Xanthium strumarium* |
| Coffeeberry | *Rhamnus tomentella* |
| Cottonwood | *Populus fremontii* |
| Coyote-bush | *Baccharis pilularis* |
| Dallisgrass | *Paspalum dilatatum* |
| Dock | *Rumex crispus* |
| Fig | *Ficus ssp.* |
| Geranium | *Geranium molle* |
| Himalayan blackberry | *Rubus discolor* |
| Holly | *Ilex spp.* |
| Ivy | *Hedera spp.* |
| Johnsongrass | *Sorghum halepense* |
| Liquid amber | *Liquidamber styraciflua* |
| Locust | *Robinia spp.* |
| Maple | *Acer macrophyllum* |

| Common Name | Scientific Name |
|---|---|
| Miner's lettuce | *Claytonia ssp.* |
| Mugwort | *Artemisia douglasiana* |
| Mulberry | *Morus spp.* |
| Mulein | *Verbascum thapsus* |
| Pacific rush | *Juncus effusus var. pacificus* |
| Periwinkle | *Vinca major* |
| Persian speedwel | *Veronica persica* |
| Poison oak | *Toxicodendron diversilobium* |
| Prickly lettuce | *Lactuca serriola* |
| English plantain | *Plantago lanceolata* |
| Rose | *Rosa spp.* |
| Sedge | *Carex spp.* |
| Sheep sorrel | *Rumex acetocella* |
| Soft chess | *Bromus hordeaceous* |
| Sow-thistle | *Sonchus ssp.* |
| Stork's bill | *Erodium botrys* |
| Strawberry | *Euonymus spp.* |
| Spice bush | *Calycanthus occidentalis* |
| Sycamore | *Platanus occidentalis* |
| Tall nutsedge | *Cyperus eragrostis* |
| Tree of heaven | *Ailanthus altissima* |
| Western redbud | *Cercis occidentalis* |
| Wild grape | *Vitis californica* |
| Wild oat | *Avena ssp.* |

# Attachment A

Electronic Copy of Report on CD

**ATTACHMENT C**

(DRAFT) DELINEATION OF WATERS OF THE U.S., GALLAWAY CONSULTING, INC, 2008

# DRAFT
# Delineation of Waters of the United States

**Annie's Glen Bicycle & Pedestrian Facility**
City of Chico, CA

**January 2008**

*Prepared for:*

City of Chico
Department of Public Works
Attn: Jeff Jukkola
411 Main Street
Chico, CA 95928

*Prepared by:*

GALLAWAY
CONSULTING, INC.
117 Meyers Street, Suite 110, Chico, CA 95928
Phone (530) 343-8327 Fax (530) 343-8312

DRAFT

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## Tables



## Figures

# DRAFT
# DELINEATION OF WATERS OF THE UNITED STATES

**Annie's Glen Bicycle & Pedestrian Facility**
City of Chico, CA.

## Introduction and Project Location

Gallaway Consulting, Inc. conducted a delineation of Waters of the U.S. for an approximately 13-acre project area located in Chico, California (**Figure 1**). The Annie's Glen Bicycle & Pedestrian Facility project (Project) is located in Section 26, Township 22N, Range 1E, of the Chico U.S. Geological Survey (USGS) 7.5 minute quadrangle map. A survey was conducted on December 3, 2007 and January 17, 2008 by botanist Elena Alfieri. The survey involved an examination of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the *United States Army Corps of Engineers Wetlands Delineation Manual* (1987); the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2006); and the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007).

The proposed Project will include the construction and resurfacing of a Class I asphalt concrete bike path from East 2nd Street to Woodland Avenue along the south side of Big Chico Creek, including a tunnel under Pine Street. The placement of a clear-span bicycle/pedestrian bridge over Big Chico Creek linking to Vallombrosa Avenue and the construction of an outfall structure to drain the proposed tunnel is also included in the Project design.

This report addresses the nature, jurisdictional status, and landscape position of the delineated features in the survey area; it does not provide information suitable for structural analysis of soils for construction purposes, flood plain delineation, or other purposes not expressly stated. Wetland acreages presented in this report should be considered preliminary, and subject to review and modification by the U.S. Army Corps of Engineers (USACE) during the wetland delineation verification process.

## Site Conditions

The Project is located in Chico, Butte County, California (**Figure 1**). Annie's Glen is located at the southwestern end of Lower Bidwell Park, south of Vallambrosa Avenue, and west of Pine/Cypress Avenue. This area is mainly utilized as a picnic area, as well as, a popular bicycle/pedestrian entry path to the 3,670 acre Bidwell Park (City of Chico 2007). Big Chico Creek, a direct tributary to the Sacramento River, traverses the survey area from east to west and is bordered by valley-foothill riparian wetland and dense valley oak woodland.

# Annie's Glen Bicycle & Pedestrian Facilities Project

## Location

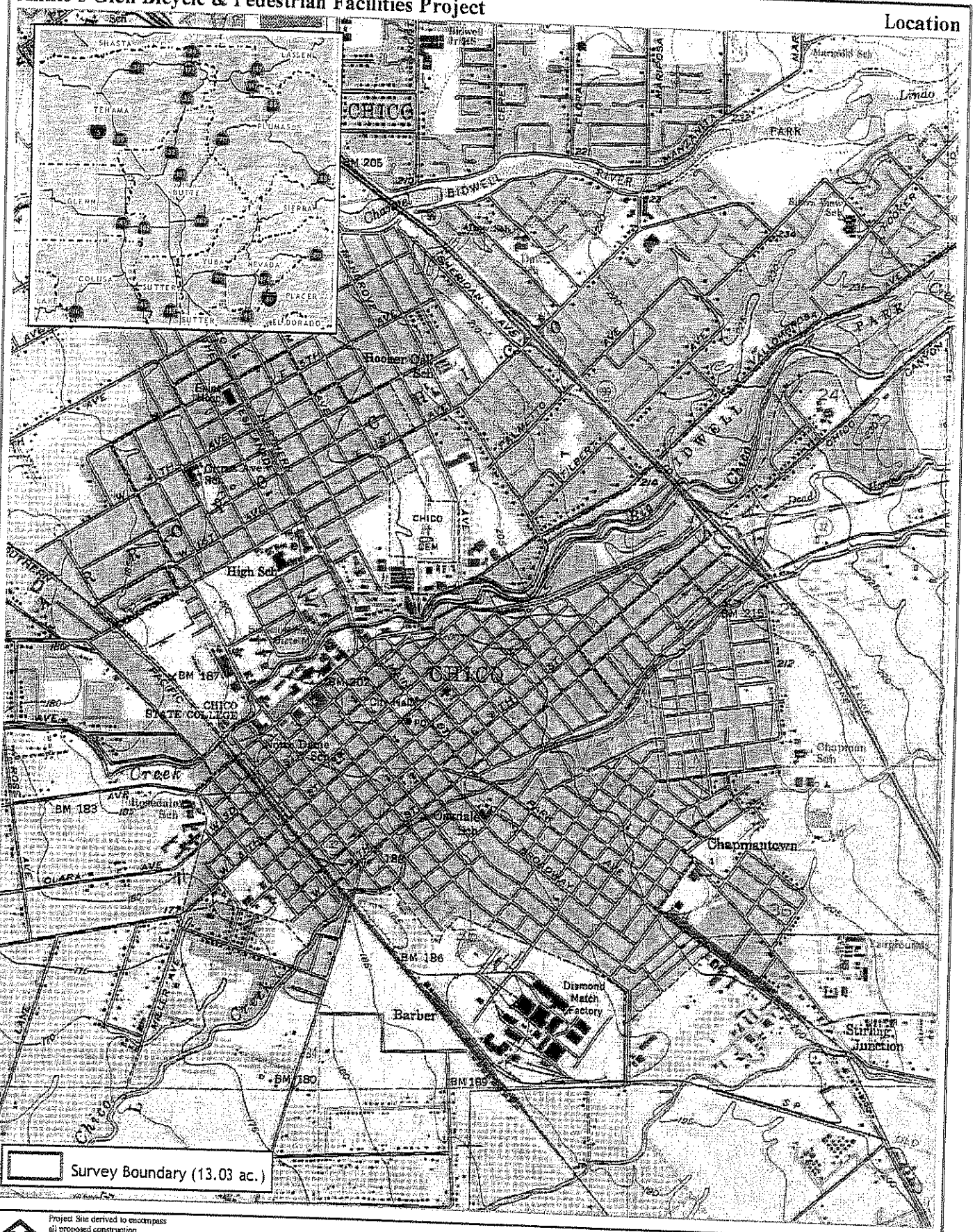



Figure 1

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2006 *Soil Survey of Butte Area, California Parts of Butte and Plumas Counties* identified one soil series in the survey area: Vina fine sandy loam 0 to 1% slopes, a well drained soil that is generally found on valley floors. The survey area ranges in elevation from 200 to 205 feet above sea level with a mean annual precipitation of 22 to 25 inches.

## Survey Methodology

Many of the terms used throughout this report have specific meanings relating to the federal wetland delineation process. Term definitions are based on the *USACE Wetlands Delineation Manual* (1987); the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989); the *Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region* (2006); and, the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007). The terms defined below have specific meaning relating to the delineation of Waters of the U.S. as prescribed by §404 of the Clean Water Act (CWA).

### *Terminology*

**Abutting:** When referring to wetlands that are adjacent to a tributary, abutting defines those wetlands that are not separated from the tributary by an upland feature, such as a berm or dike.

**Adjacent:** Adjacent as used in "Adjacent to a traditional navigable water," is defined in USACE and EPA regulations as "bordering, contiguous, or neighboring." Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes and the like are 'adjacent wetlands.'

**Atypical situation (significantly disturbed):** In an atypical (significantly disturbed) situation, recent human activities or natural events have created conditions where positive indicators for hydrophytic vegetation, hydric soil, or wetland hydrology are not present or observable.

**Ephemeral stream:** An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

**Growing season:** The growing season is the portion of the year when soil temperatures are above biologic zero (41° F) as defined by soil taxonomy.

**Hydric soil:** Soil is hydric that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-depleted) conditions in its upper part (*i.e.* within the shallow rooting zone of herbaceous plants).

**Intermittent stream:** An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

**Jurisdictional wetland:** Sites that meet the definition of wetland provided below and that fall under USACE regulations pursuant to §404 of the CWA are considered jurisdictional wetlands.

**Man-induced wetlands:** A man-induced wetland is an area that has developed at least some characteristics of naturally occurring wetlands due to either intentional or incidental human activities.

**Non-relatively permanent waters:** This describes a body of water such as an ephemeral stream, which has flowing water only during and for a short period of time following precipitation events in a typical year. Non-relatively permanent waters (NRPWs) are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

**Normal circumstances:** This term refers to the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed.

**Other waters of the United States:** Other Waters of the U.S. are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

**Perennial stream:** A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

**Plant indicator status categories:**

*Obligate wetland plants* (OBL) – plants that occur almost always (estimated probability 99%) in wetlands under normal conditions, but which may also occur rarely (estimated probability 1%) in non-wetlands.

*Facultative wetland plants* (FACW) - plants that usually occur (estimated probability 67% to 99%) in wetlands under normal conditions, but also occur (estimated probability 1% to 33%) in non-wetlands.

*Facultative plants* (FAC) – Plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and non-wetlands.

*Facultative upland plants* (FACU) – Plants that occur sometimes (estimated probability1% to 33%) occur in wetlands, but occur more often (estimated probability 67% to 99%) in non-wetlands.

*Obligate upland plants* (UPL) – Plants that occur rarely (estimated probability 1%) in wetlands, but occur almost always (estimated probability 99%) in non-wetlands under natural conditions.

**Ponded:** Ponding is a condition in which free water covers the soil surface (e.g., in a closed depression) and is removed only by percolation, evaporation, or transpiration.

**Problem area:** Problem areas are those where one or more wetland parameters may be lacking because of normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events.

**Relatively permanent:** As defined in the *Rapanos* guidance document, a water body is "relatively permanent" if its flow is year round or its flow is continuous at least "seasonally," (e.g., typically 3 months). Wetlands adjacent to a "relatively permanent" tributary are also jurisdictional if those wetlands directly abut such a tributary.

**Significant nexus:** A water body is considered to have a "significant nexus" with a traditional navigable water if its flow characteristics and functions in combination with the ecologic and hydrologic functions preformed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water.

**Traditional navigable water:** Includes all of the "navigable water of the United States," defined in 33 C.F.R. § 329, and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact. As defined in 33 C.F.R. § 329, "Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not extinguished by later actions or events which impede or destroy navigable capacity."

**Tributary:** As defined in the *Rapanos* guidance document a tributary is a natural, man-altered, or man-made water body that carries flow directly or indirectly into traditional navigable waters. For purposes of determining "significant nexus" with a traditional navigable water, a "tributary" is the entire reach of the stream that is of the same order (i.e., from the point of confluence, where two lower order streams meet to from the tributary, downstream to the point such tributary enters a higher order stream).

**Waters of the United States:** This is the encompassing term for areas under federal jurisdiction pursuant to Section 404 of the CWA. Waters of the U.S. are divided into "wetlands" and "Other Waters of the U.S."

**Wetland:** Wetlands are defined as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 [b], 40 CFR 230.3). To be considered under federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

*Determination of Hydrophytic Vegetation*

The presence of hydrophytic vegetation was determined using the methods outlined in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989) and the *Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region* (2006), which are approved by the USACE for use in conjunction with the *Wetlands Delineation Manual* (1987). Areas are considered to have positive indicators of hydrophytic vegetation if they pass the dominance test, meaning more than 50 percent of the dominant species are OBL, FACW, FAC (Reed 1988). Plant species were identified to the lowest taxonomy possible.

*Determination of Hydric Soils*

Soil survey information was reviewed for the survey area and the Natural Resources Conservation Service (NRCS) database was consulted on the local soil conditions. The use of hydric soil indicators, as outlined in the *Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region* (2006), was applied to all soil samples. Official soil series descriptions are provided in **Appendix A** and the distribution of soil map units for the site is shown in **Figure 2**.

*Determination of Wetland Hydrology*

Wetland hydrology was determined to be present if a site supported one or more of the following characteristics:

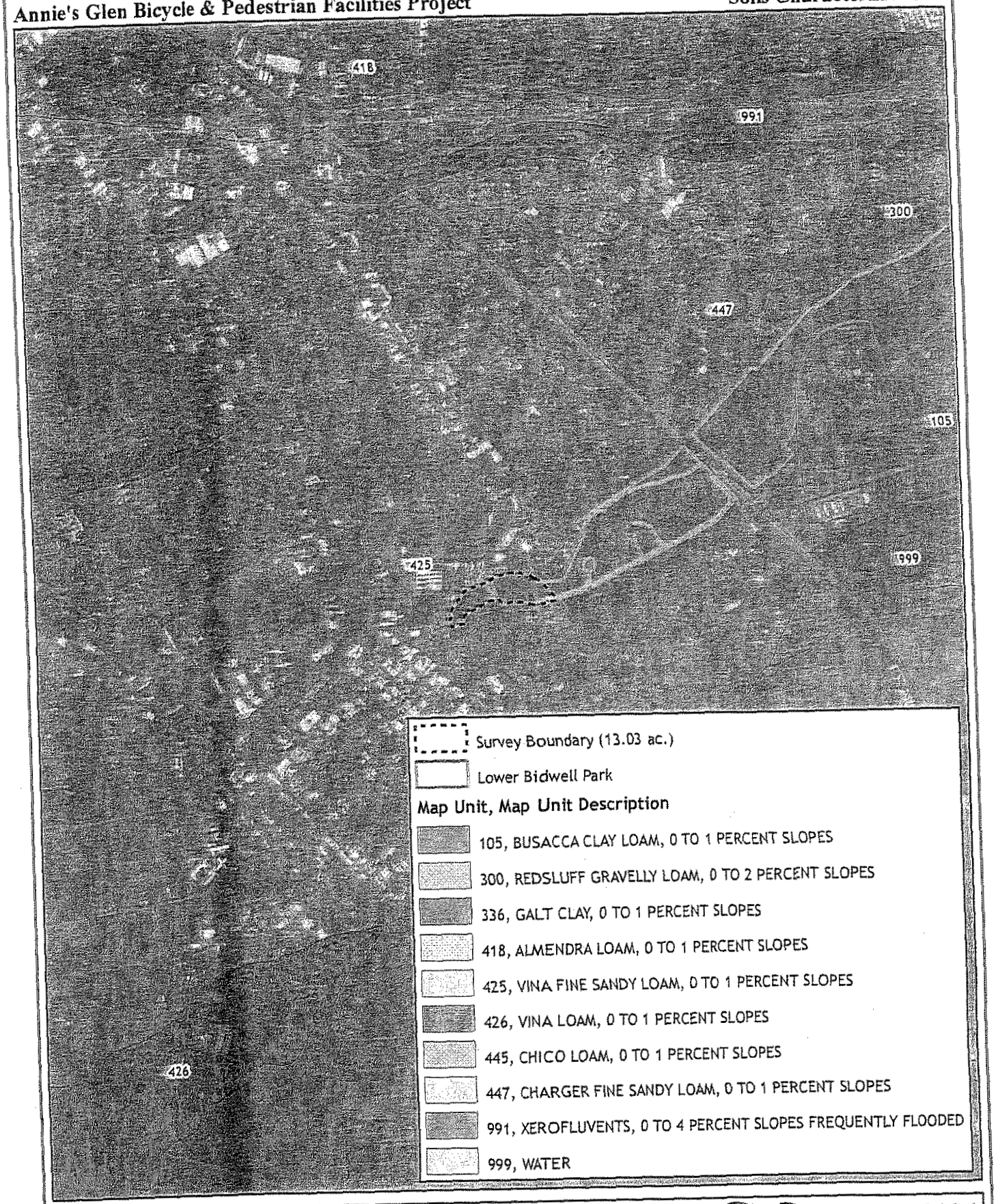
- Landscape position and surface topography (e.g. position of the site relative to an up-slope water source, location within a distinct wetland drainage pattern, and concave surface topography);
- Inundation or saturation for a long duration either inferred based on field indicators or observed during repeated site visits; and
- Residual evidence of ponding or flooding resulting in field indicators such as scour marks, sediment deposits, algal matting, and drift lines.

The presence of water or saturated soil for approximately 5 to 12.5 percent of the growing season typically creates anaerobic conditions in the soil, and these conditions affect the types of plants that can grow and the types of soils that develop (Environmental Laboratory 1987).

*Determination of Ordinary High Water Mark*

The lateral extent of non-tidal water bodies (e.g. intermittent streams) were based on the ordinary high water mark (OHWM), which is "the line on the shore established by the fluctuations of water" (USACE 2005). The OHWM was determined based on physical characteristics of the area, including scour, multiple observed flow events (from current and historical aerial photos), shelving, changes in the character of soil, presence of mature vegetation, deposition, and topography. Due to the wide extent of some floodplains, adjacent riparian areas characterized by hydric soils, hydrophytic vegetation, and hydrology may be included within the OHWM of a non-tidal water body.

**Annie's Glen Bicycle & Pedestrian Facilities Project** — **Soils Characterizations**




Survey Boundary derived from 125' buffer of construction footprint.
Bidwell Park boundary derived from Butte County Assessor data
Surveyor: TL, CM (09/04/07, 09/18/07)
Aerial: Feb. 2005 (NAIP)
Map Date: October 1, 2007. Revised: January 21, 2008.

Miles
0 0.25 0.5

GALLAWAY CONSULTING, INC.

**Figure 2**

*Jurisdictional Boundary Determination and Acreage Calculation*

The wetland-upland boundary was determined based on the presence or inference of positive indicators of all mandatory criteria. The site was traversed on foot to identify wetlands. Standard data sheets (**Appendix B**) were used to describe plants, soils, and hydrological characteristics. Gallaway Consulting, Inc. conducted the field delineation and prepared the map and acreage calculations (**Attachment A**). The spatial data obtained during the preparation of this delineation was collected using a Trimble GeoXT Global Positioning System (GPS) Receiver on December 3, 2007 and January 17, 2008. The maximum position dilution of precision (PDOP) during data collection was 7.5. No readings were taken with fewer than 5 satellites. Point data locations were recorded for 25 seconds at a rate of 1 position per second. Area and line data was recorded at a rate of 1 position per second while walking at a slow pace. All GPS data was differentially corrected for maximum accuracy using the nearest National Geodetic Survey's Continuously Operating Reference Station (CORS).

## Results

A total of 2.724 acres of pre-jurisdictional Waters of the U.S. were delineated within the project area. The types of Waters of the U.S. identified onsite are distinguished as riparian wetland and an Other Waters including a perennial stream, Big Chico Creek (**Table 1**). These features are mapped at a 1" equals 200' scale and are presented in **Figure 3**. Though the topography on the map shows a depression traversing the southeastern portion of the project area (Reference points 01 and 02 on **Figure 3**), this area does not have a clear bed, bank, or scour as required by the USACE 1987 Delineation Manual to be labeled as a jurisdictional Other Water. At both reference points, the area was overgrown by upland grass species and no standing or running water was present even though a significant precipitation event had occurred within 2 weeks prior to the field survey (see **Appendix D** for a table showing rainfall totals 2 weeks prior to the date surveyed). Waters of the U.S. acreages presented in this report should be considered preliminary, subject to review and modification by the USACE during the delineation verification process. The pre-jurisdictional waters, and the data of interpretation used to delineate their jurisdictional boundaries are described below.

**Table 1.** Pre-jurisdictional wetland totals delineated within the Annie's Glen Bicycle & Pedestrian Facility Project Area, Chico, CA.

| *Wetland Features* | | | | | | |
|---|---|---|---|---|---|---|
| Type | Adjacency | Label | Avg. Width (ft.) | Length (ft.) | Area (ft.$^2$) | Acres |
| Riparian | Abutting | WF01 | n/a | n/a | 5937.243 | 0.136 |
| Riparian | Abutting | WF02 | n/a | n/a | 12939.982 | 0.297 |
| Riparian | Abutting | WF03 | n/a | n/a | 4782.869 | 0.110 |
| Riparian | Abutting | WF04 | n/a | n/a | 5874.436 | 0.135 |
| | | | Riparian Total = | n/a | 29534.529 | 0.678 |
| | | | Total of All WF = | n/a | 29534.529 | 0.678 |

| *Other Waters of the U.S.* | | | | | | |
|---|---|---|---|---|---|---|
| Type | Designation | Label | Avg. Width (ft.) | Length (ft.) | Area (ft.$^2$) | Acres |
| Perennial | RPW | OW01 | 47 | 1916.948 | 89141.256 | 2.046 |
| | | | RPW Total = | 1916.948 | 89141.256 | 2.046 |
| | | | Total of all OWOTUS = | 1916.948 | 89141.256 | 2.046 |

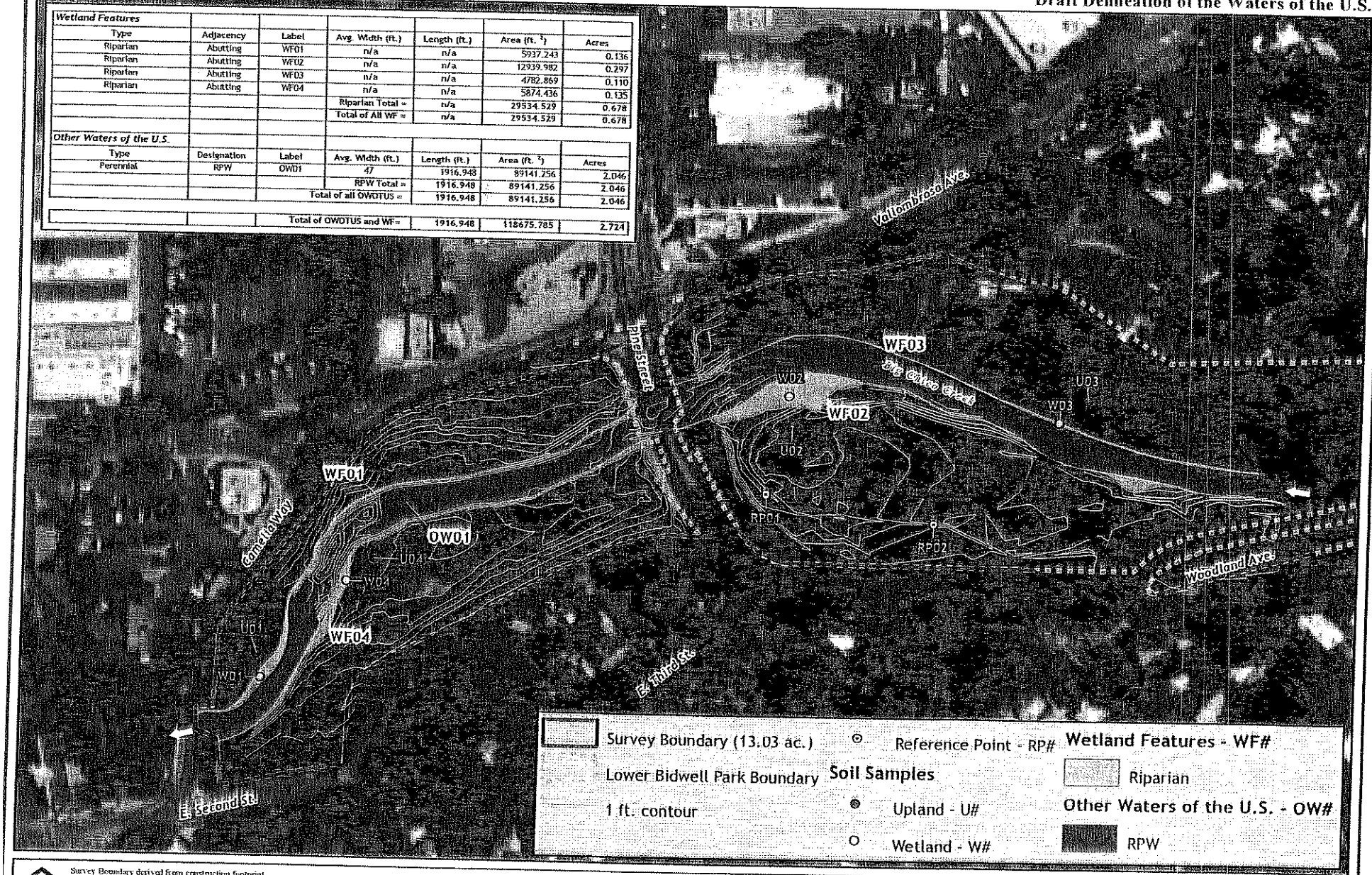
| | | | |
|---|---|---|---|
| Total of OWOTUS and WF= | 1916.948 | 118675.780 | 2.724 |

## Annie's Glen Bicycle & Pedestrian Facilities

**Draft Delineation of the Waters of the U.S.**

| *Wetland Features* | | | | | | |
|---|---|---|---|---|---|---|
| Type | Adjacency | Label | Avg. Width (ft.) | Length (ft.) | Area (ft. $^2$) | Acres |
| Riparian | Abutting | WF01 | n/a | n/a | 5937.243 | 0.136 |
| Riparian | Abutting | WF02 | n/a | n/a | 12939.982 | 0.297 |
| Riparian | Abutting | WF03 | n/a | n/a | 4782.869 | 0.110 |
| Riparian | Abutting | WF04 | n/a | n/a | 5874.436 | 0.135 |
| | | | Riparian Total = | n/a | 29534.529 | 0.678 |
| | | | Total of All WF = | n/a | 29534.529 | 0.678 |

| *Other Waters of the U.S.* | | | | | | |
|---|---|---|---|---|---|---|
| Type | Designation | Label | Avg. Width (ft.) | Length (ft.) | Area (ft. $^2$) | Acres |
| Perennial | RPW | OW01 | 47 | 1916.948 | 89141.256 | 2.046 |
| | | | RPW Total = | 1916.948 | 89141.256 | 2.046 |
| | | | Total of all OWOTUS = | 1916.948 | 89141.256 | 2.046 |
| | | | Total of OWOTUS and WF = | 1916.948 | 118675.785 | 2.724 |




Survey Boundary derived from construction footprint.
Bidwell Park boundary derived from Butte County Assessor data
Surveyor: EA (12/03/07, 1/17/08)
Aerial: Feb. 2005 (NAIP)
Map Date: January 23, 2008.

Feet
0 200 400

GALLAWAY CONSULTING, INC.

**Figure 3**

*Jurisdictional Features*

**Valley-Foothill Riparian Wetlands**

Valley-foothill riparian habitats occur in California's Central Valley and lower foothills along the Cascades, Sierra Nevada and Coast ranges. They are generally associated with low flow, flood plains and gentle topography. The canopy cover contains a mix of cottonwood, sycamore and valley oak that provide a cover of 20 to 80 percent. The subcanopy often includes various willows, alders and maples. In addition to a subcanopy, a vine understory often occurs, which includes blackberry, grapes, poison oak, and wild rose. Occasionally an herbaceous layer with various shade tolerant grasses exists. The transition to adjacent non-riparian habitat is usually abrupt; and is usually associated with agriculture, grassland, oak woodland and riverine habitats. Riparian habitats provide food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife. At least 50 amphibians and reptiles occur in lowland riparian systems. Many are permanent residents; others are transient or temporal visitors. In one study conducted on the Sacramento River, 147 bird species were recorded as nesters or winter visitants. Additionally, 55 species of mammals are known to use California's Central Valley riparian communities (Mayer 1988).

A total of 0.678 acre of valley-foothill riparian was delineated within the survey area along the banks of Big Chico Creek.

**Other Waters of the United States**

Other Waters of the U.S. are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (*i.e.*, hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4). The above definition was applied while delineating all Other Waters of the U.S. onsite. Drainages exhibited an ordinary high water mark and contained bed, bank, and/or scour morphology. A total of 2.046 acres (1916.948 linear feet) of Other Waters of the U.S. were delineated onsite.

Traditional Navigable Waters
No traditional navigable waters (TNW's) were observed within the survey area.

Relatively Permanent Waters
One relatively permanent water (RPW) was observed within the survey area – Big Chico Creek. Big Chico Creek flows in a southwesterly direction directly into the Sacramento River.

Non-Relatively Permanent Waters
No non-relatively permanent waters (NRPWs) were delineated within the survey area.

*Non-Jurisdictional Features*

No non-jurisdictional features were observed within the survey area.

## *Significant Nexus*

Relatively Permanent Waters and Wetlands that Abut Them

Per the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (May 30, 2007) and the *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision Rapanos v. United States and Carabell v. United States* a significant nexus determination is not required due to the fact that OW 01, Big Chico Creek, flows year-round and flows directly into the Sacramento River. Additionally, the riparian wetlands that occur within this Project directly abut the RPW as illustrated in **Figure 3**, forming a significant nexus.

## *Soils*

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2006 *Soil Survey of Butte Area, California Parts of Butte and Plumas Counties* identified one soil within the survey area – Vina fine sandy loam 0 to 1% slopes (**Appendix A**). Soil series descriptions are presented in **Appendix A** and wetland data sheets are presented in **Appendix B**.

When pooled water and/or obligate plants were present, hydric soils were assumed. In areas with questionable upland/wetland distinction, soil pit samples were observed to determine the presence or absence of hydric soil indicators. We observed water at depths ranging from 1-3 feet in Big Chico Creek.

## *Vegetation*

Vegetation within the Project is dominated by plant species typical of valley-foothill riparian habitats including California sycamore, Oregon ash, black walnut, valley oak, alder, blue elderberry, Himalayan blackberry, pokeweed, bedstraw, tall nutsedge, knotgrass, and Johnson grass. Upland habitats from the riparian wetland onsite are composed of valley oak, California sycamore, periwinkle, manicured lawns, and cemented walkways and roads.

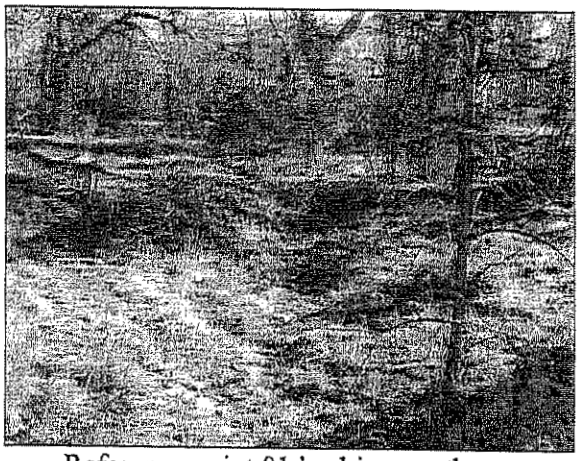
## *Hydrology*

Local hydrology consists of a single perennial stream, Big Chico Creek, which conveys water in a southwest direction to the Sacramento River. Big Chico Creek receives its water naturally from precipitation events and surface runoff. The riparian wetlands along the banks of Big Chico Creek help to filter surface runoff that drains directly into the creek.

Copies of field data sheets are provided in **Appendix B**.

## Site Photos

Big Chico Creek (OW 01) and associated riparian (WF 01) looking northwest



Reference point 01 looking southeast

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# Appendix A. Official Soils Series Descriptions

LOCATION VINA CA

Established Series
Rev. SBJ/WCL/DJE/MAV/SBS
10/2006

# VINA SERIES

The Vina series consists of very deep, well drained soils on alluvial fans and flood plains. Slopes are 0 to 9 percent. Mean annual precipitation is about 20 inches and the mean annual temperature is about 62 degrees F.

**TAXONOMIC CLASS:** Coarse-loamy, mixed, superactive, thermic Pachic Haploxerolls

**TYPICAL PEDON:** Vina loam - open idle land with a slope of 1 percent under a cover of annual grasses and forbs at 200 feet elevation. (Colors are for dry soil unless otherwise stated).

**A1**--0 to 11 inches; dark grayish brown (10YR 4/2) loam; very dark grayish brown (10YR 3/2) moist; moderate medium and fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine and fine tubular pores; neutral (pH 7.0); clear smooth boundary. (10 to 18 inches thick)

**A2**--11 to 36 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots, common very fine and fine tubular pores; neutral (pH 7.0); clear smooth boundary. (20 to 30 inches thick)

**C**--36 to 66 inches; grayish brown (10YR 5/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine tubular pores; neutral (pH 7.0).

**TYPE LOCATION:** Tehama County, California; about five tenths of a mile south of the town of Vina between the railroad and county road. It is 400 feet west and 2,000 feet south of the NE corner of sec. 23, T. 24 N., R. 2 W.

**RANGE IN CHARACTERISTICS:** The mean annual soil temperature varies from 62 to 67 degrees F. The soil moisture control section between depths of 8 to 25 inches is dry in all parts from June 1 to November 1 (120 days). The particle-size control section (10 to 40 inches) averages 12 to 18 percent clay and 15 to 25 percent fine sand or coarser material. Reaction is slightly acid or slightly alkaline. Organic carbon decreases regularly to 50 inches or more and remains higher than .3 percent. The mollic epipedon ranges from 30 to 48 inches in thickness.

The A horizon is 10YR 5/2, 4/3, 5/3 and 4/2. Moist color is 10YR 3/2 or 3/3. Surface textural phases mapped are fine sandy loam, sandy loam, silt loam, loam, clay loam and silty clay loam and may be gravelly.

The C horizon is 10YR 4/3, 5/2, 5/3 or 6/3. Moist colors are 10YR 3/3, 4/3 and 4/2. It is stratified loam, silt loam, sandy loam, fine sandy loam, clay loam or silty clay loam and may be gravelly (15 to 25

percent pebbles). Some pedons are very gravelly (35 to 60 percent pebbles) below 30 inches.

**COMPETING SERIES:** These are the Ignord and Sheridan soils. Ignord soils have carbonates throughout. Sheridan soils are moderately deep over weathered granite.

**GEOGRAPHIC SETTING:** Vina soils are on alluvial fans and flood plains. Slopes are 0 to 9 percent and elevations range from 30 to 1,000 feet. The soils developed in recent alluvium derived from mixed sources. The climate is Mediterranean with hot dry summers and cool moist winters. Mean annual precipitation is 14 to 40 inches. Mean January temperature is 45 degrees F, mean July temperature is 82 degrees F and the mean annual temperature is 60 to 64 degrees F. The frost-free period is 225 to 280 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are Capay, Keefers, Los Robles, Toomes and Tuscan soils. Capay soils are clayey throughout. Keefer soils have a clayey subsoil. Los Robles soils are on alluvial plains and have a clay loam subsoil. Toomes soils are underlain at shallow depths by volcanic breccia. Tuscan soils have an indurated hardpan.

**DRAINAGE AND PERMEABILITY:** Well drained; negligible to medium runoff; moderate permeability. Some phases are rarely, frequently or occasionally flooded.

**USE AND VEGETATION:** Used for irrigated row crops, orchards, hay and pasture. Vegetation is valley oaks, cottonwoods, annual and perennial grasses.

**DISTRIBUTION AND EXTENT:** Inland valleys of northern and southern California. The series is moderately extensive in MLRA-17.

**MLRA OFFICE RESPONSIBLE:** Davis, California

**SERIES ESTABLISHED:** Red Bluff Area, California, 1909.

**REMARKS:**
10/2006 changed runoff terminology- DWB
5/25/2005 Competing section updated as part of Butte County Soil Survey (CA612) final correlation conference. Use of Vina in Butte County is limited only to alluvial fans, not alluvial fans and floodplains that the series concept presently allows. -SS

Undated remarks: Laboratory data by University of California, Davis. (Change in classification is coarse-loamy family instead of fine-loamy). Soils previously mapped as fine-loamy would now be a different series. The concept of this soil is limited to the fine end of the coarse-loamy family. The Molinos series if mapped will be the coarser counterpart containing more than 25 percent fine sand or coarser. The Molinos series is presently inactivated. The Vina now borders the fine-loamy and coarse-silty families.

Diagnostic horizons and features recognized in this pedon are:

Mollic epipedon - the zone from the surface to a depth of 36 inches (A1,A2).

# Appendix B. Field Data Forms

# Appendix C. Jurisdictional Form

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Butte City: Chico
Center coordinates of site (lat/long in degree decimal format): Lat. 39.7333° N, Long. 121.8355° W.
Universal Transverse Mercator: 10
Name of nearest waterbody: Big Chico Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Sacramento River
Name of watershed or Hydrologic Unit Code (HUC): 18020105
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 1916.948 linear feet: width (ft) and/or 2.046 acres.
      Wetlands: 0.678 acres.

   c. **Limits (boundaries) of jurisdiction** based on: 1987 Delineation Manual
      Elevation of established OHWM (if known): approximately 4 feet.

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

**The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.**

1. TNW
   Identify TNW: **None.**

   Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.**

**If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: 111.6 **square miles**
   Drainage area: 7 **square miles**
   Average annual rainfall: 22-25 inches
   Average annual snowfall: 0 inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☒ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **5-10** river miles from TNW.
   Project waters are **1 (or less)** river miles from RPW.
   Project waters are **5-10** aerial (straight) miles from TNW.
   Project waters are **1 (or less)** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: No.

   Identify flow route to TNW[5]: Big Chico Creek flows directly into the Sacramento River.
   Tributary stream order, if known: 2.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

**Tributary** is: ☒ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):
Average width: 15 feet
Average depth: 4 feet
Average side slopes: 2:1.

Primary tributary substrate composition (check all that apply):

| | | |
|---|---|---|
| ☒ Silts | ☒ Sands | ☐ Concrete |
| ☒ Cobbles | ☒ Gravel | ☐ Muck |
| ☐ Bedrock | ☐ Vegetation. Type/% cover: | |
| ☐ Other. Explain: | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributary is a large perrenial stream and is very stable.

Presence of run/riffle/pool complexes. Explain: runs and riffles do occur within the survey area but no pools occur in the survey area.

Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): unknown %

(c) Flow:

Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: The stream appears to be a perrenial stream.
Other information on duration and volume:

Surface flow is: **Confined**. Characteristics:

Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

| | |
|---|---|
| ☐ clear, natural line impressed on the bank | ☐ the presence of litter and debris |
| ☐ changes in the character of soil | ☒ destruction of terrestrial vegetation |
| ☒ shelving | ☒ the presence of wrack line |
| ☐ vegetation matted down, bent, or absent | ☐ sediment sorting |
| ☒ leaf litter disturbed or washed away | ☒ scour |
| ☒ sediment deposition | ☐ multiple observed or predicted flow events |
| ☐ water staining | ☒ abrupt change in plant community |
| ☐ other (list): | |

☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

| | |
|---|---|
| ☒ High Tide Line indicated by: | ☒ Mean High Water Mark indicated by: |
| ☐ oil or scum line along shore objects | ☐ survey to available datum; |
| ☐ fine shell or debris deposits (foreshore) | ☐ physical markings; |
| ☐ physical markings/characteristics | ☐ vegetation lines/changes in vegetation types. |
| ☐ tidal gauges | |
| ☐ other (list): | |

**(iii) Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: The water was clear without evidence of pollutants.

Identify specific pollutants, if known: Unknown - no evidence visable, however the creek does flow though the City of Chico and recieves surface street runoff and other debris.

---

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

**(iv) Biological Characteristics. Channel supports (check all that apply):**

☒ Riparian corridor. Characteristics (type, average width): the Valley-foothill valley oak riparian wetland averaged 100 ft wide along the banks of Big Chico Creek.

☐ Wetland fringe. Characteristics: .

☒ Habitat for:

☒ Federally Listed species. Explain findings: Big Chico Creek provides suitable habitat for federally listed anadromous fish species including Chinook salmon and steelhead.

☒ Fish/spawn areas. Explain findings: The creek provides suitable habitat for anadromous fish and other non-listed fish species to spawn.

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: provides habitat for migratory birds, turtles and other wildlife species.

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.678 acres

Wetland type. Explain: Riparian wetland along the banks of Big Chico Creek.

Wetland quality. Explain: Riparian wetland is of good quality with mature sycamore and valley oaks present.

Project wetlands cross or serve as state boundaries. Explain: No.

(b) General Flow Relationship with Non-TNW:

Flow is: **No Flow**. Explain: The wetlands are riparian habitat occuring directly along the banks of Big Chico Creek and in the flood plain of the Creek, so the water recedes, not flows from the wetlands.

Surface flow is: **Discrete**

Characteristics: The water rises and recedes via sheet flow, not channelized flow..

Subsurface flow: **Unknown**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☒ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain: .

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **5-10** river miles from TNW.

Project waters are **5-10** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **5 - 10-year** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Riparian wetland did not contain water during the date surveyed.

Identify specific pollutants, if known: Unknown, however, the wetland is adjacent to city streets and receives surface street runoff.

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

☒ Riparian buffer. Characteristics (type, average width): 7 feet from bank.

☒ Vegetation type/percent cover. Explain: Riparian vegetation including sycamore, valley oaks, blue elderberry, alder, wild grape, and Himalayan blackberry.

☒ Habitat for:

☒ Federally Listed species. Explain findings:Valley elderberry longhorn beetle habitat is present within the survey area.

☐ Fish/spawn areas. Explain findings: .

☒ Other environmentally-sensitive species. Explain findings: The riparian wetland provides habitat for migratory bird species.

☐ Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **4**

Approximately ( 0.678 ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

| Directly abuts? (Y/N) | Size (in acres) | Directly abuts? (Y/N) | Size (in acres) |
|---|---|---|---|
| WF 01 - Yes | 0.136 | WF 02 - Yes | 0.297 |
| WF 03 - Yes | 0.110 | WF 04 - Yes | 0.135 |

Summarize overall biological, chemical and physical functions being performed: Water during flood events in the Creek rises and fills the riparian habitat, preventing the flood of areas outside of the riparian habitat. Also, the vegetation in the riparian habitat acts to clense the Creek from debris and some pollutants.

## C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Water was present during the summer months.

☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **The wetland is the riparian wetland occuring along the banks of Big Chico Creek.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]**
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:** .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

## SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. **Data reviewed for JD (check all that apply** - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☐ Photographs: ☐ Aerial (Name & Date): .
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

# Appendix D. Rainfall Totals Graph

**Daily precipitation for the two weeks preceding the wetland delineation on January 17, 2008 for the Annie's Glen Project in Chico, CA (Weather.com, 2008).**